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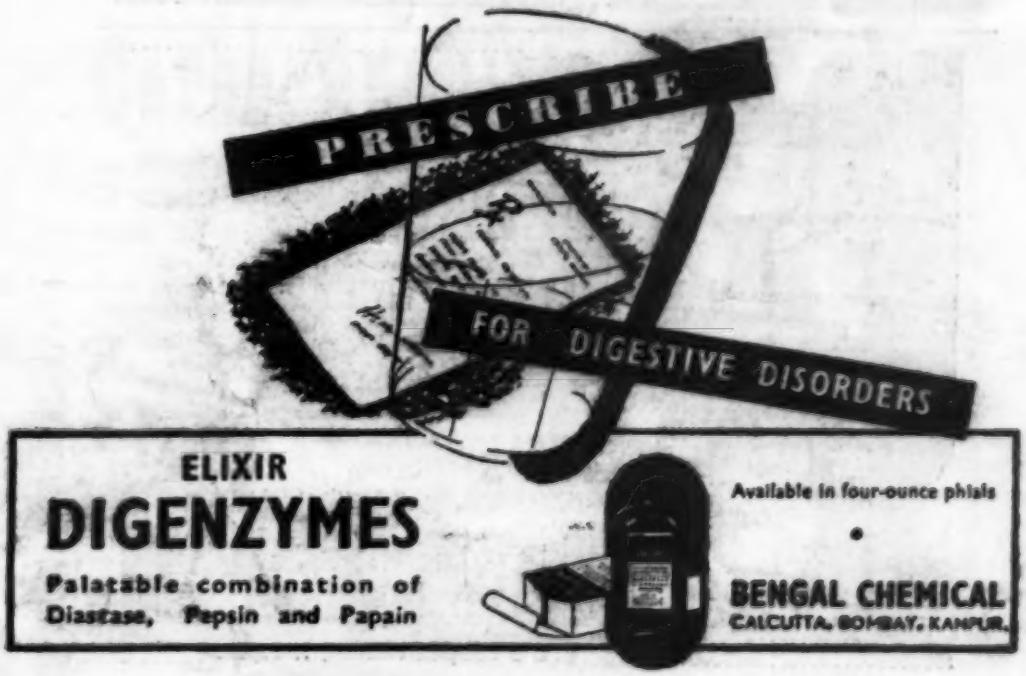

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The Psyche and the Soma

In general practice, at least 40% of patients have symptoms of purely functional disorders.

(Lancet, 1958. 1525)

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Eventually, the symptoms are attributed to some psychosomatic disturbance.

Such a diagnosis is not always welcomed by a fretful patient. He is sure that his symptoms are genuine and stem from some very real organic trouble. He wants that trouble pin-pointed — not an explanation of the mind's effect on the body, or how the Psyche and Soma are related.

Quite often, therefore, he comes to his own conclusions. He might blame weather, water, the food he is eating — even (and this is curious) the medium in which this food is cooked.

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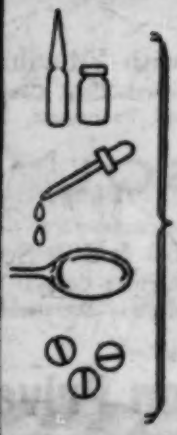

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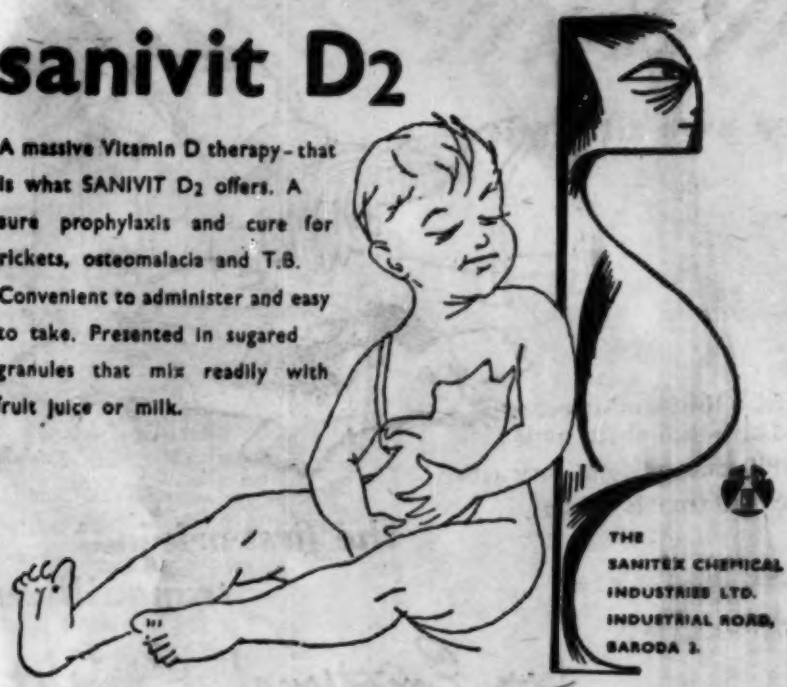

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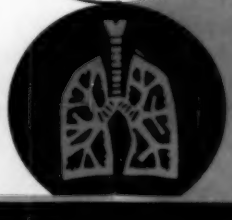

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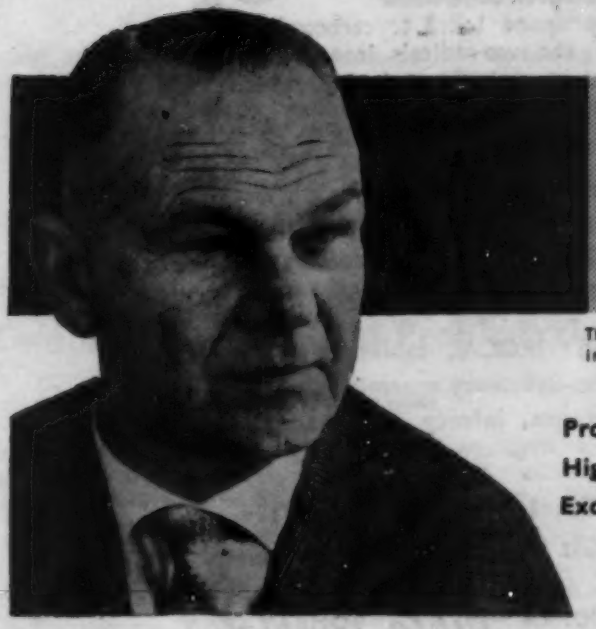

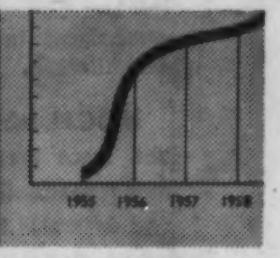

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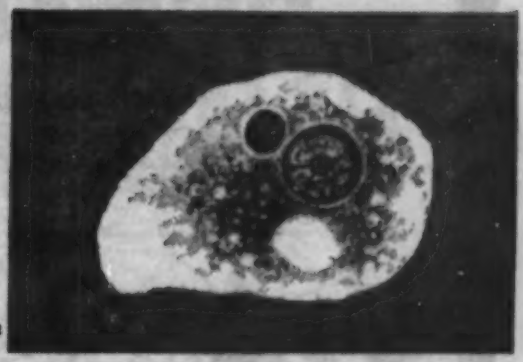

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References 1 Sodeman, W.A., and Beaver, P. C. : *Am. Jour. Med., 12* : 440, Apr., 1952
2 Zavala, D. C., and Hamilton, H. E. : *Ann. Int. Med., 36* : 110, Jan., 1952
3 Conan, N. J. : *Am. Jour. Med., 6* : 309, Mar., 1949

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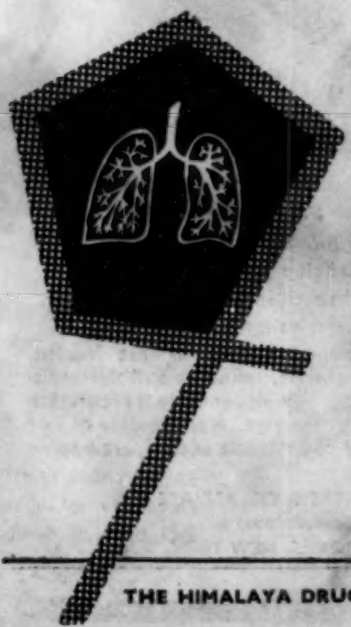

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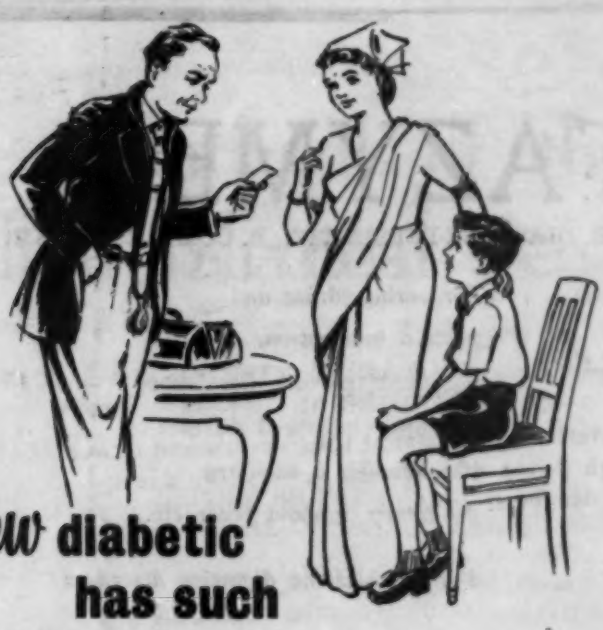

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ORIGINAL ARTICLES

NEEDLE BIOPSY OF THE KIDNEY : AN APPRAISAL OF 150 SUCCESSFUL BIOPSIES

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Nine years ago Iverson and Brun (1951) published their findings on percutaneous kidney biopsy. It was for the first time possible to obtain sufficient kidney tissue for histological examination without exposing the patient to any serious risk. This new diagnostic procedure promised to throw new light on the natural history of many nephropathies. Since their first report extensive literature on kidney biopsy has been published. Our own studies include clinicopathological correlation in acute renal failure (Mathur, 1959), and evaluation of steroid therapy in nephrotic syndrome. (Mathur *et al*, 1955), in nephrotic state (Mathur and Srivastava, 1960a), in renal amyloidosis (Mathur and Srivastava, 1960b), in acute cortical necrosis (Mathur *et al*, 1960a), diabetes mellitus (Mathur *et al*, 1960b) and hypertension (Mathur *et al*, 1960c).

There is still some controversy over the practical clinical value of needle biopsy, and conflicting views are held by several workers (Mathur, 1960). From September, 1957 to December, 1959, two hundred and three kidney biopsies have been attempted in this medical unit. This paper records our observations on the various problems associated with needle biopsy of the kidney, particularly with regard to the technique, complications and significance of the method in the diagnosis of nephropathies.

MATERIAL AND METHODS

Two hundred and three attempts were made for biopsy of the kidney in one hundred and seventy patients. The procedure employed was a modification of the technique adopted by Iverson and Brun (1951) and Kark and Muehrcke (1954) using the Vim Silverman biopsy needle with the patient in the sitting position.

In preparation of the biopsy, the bleeding tendency in the subject was carefully excluded. Radiographic localisation of the kidneys by means of plain skiagrams or pyelograms, was not considered essential. Biopsies were performed as a rule, on the right side, but 25 attempts made on the left side proved that the left kidney could be approached with almost equal ease.

The patient was kept on empty stomach before the biopsy and a mild sedative like pentobarbital sodium gr. 1½ administered half an hour before the operation. The patient was kept sitting up in bed with the back facing the operator and the arms supported on a cardiac table. Before actually proceeding with the biopsy, the patient was

assured and trained to take a deep breath, hold it for a few seconds and exhale only when instructed. The site for puncture was the point 1·5 cm. below the junction of the lower border of the 12th rib and the lateral border of the sacrospinalis muscle. A small intradermal wheal was raised by injecting novocaine solution and the whole track of the needle, from skin down to the perirenal fat, was anaesthetised. A small nick was made in the skin at the puncture site and the Vim Silverman biopsy needle was pushed along the track of the infiltrating needle. The stylus of the biopsy needle was not used, and the cutting prongs were inserted along with the ensheathing needle, the tip of the former being kept just inside the bevelled sharp edge of the latter. The needle was directed forward with a very slight upward tilt. A definite 'soft feel' was usually obtained when the tip of the needle had just entered the kidney. During this process the patient was asked to hold his breath and the operator took care to remove his hands from the needle. The patient was then asked to take a deep breath, and the typical swing of the hub of the needle indicated that the needle was in the kidney. The patient was then asked to take another deep breath and hold it at full inspiration. The cutting prongs were inserted to their full depth in the kidney tissue. With one hand keeping the hub of the inserted prongs fixed, the needle sheath was then advanced over the cutting prongs to secure the cut piece. The needle was then quickly withdrawn and the patient asked to breathe out. The tissue so obtained was immediately fixed in 10 per cent formalin solution. The puncture site was sealed and a firm bandage applied.

The patient was kept in the recumbent position in bed for 12 hours. Semi-solid food was allowed soon after and plenty of water intake encouraged. A careful watch was kept for 48 hours for any sign of haemorrhage and the urine checked up periodically.

Results

A total of 203 biopsy attempts were made on 170 patients. Renal tissue was obtained in 169 instances, but was sufficient for histological study in 151 specimens (74.38 per cent) only. This compares favourably with the results of other authors (Table 1). Of the 52 failures, parts of renal tissue were obtained in 19 instances. Table 2 indicates the nature of the tissue obtained in these attempts.

The procedure was well tolerated by nearly all patients. However, 9 patients complained of a feeling of faintness during the biopsy, and two of these developed signs of peripheral collapse. The biopsy was immediately abandoned and stimulants

Table 1—Showing the Analysis of the Results of Kidney Biopsy by Different Authors

Authors	No. of patients studied	No. of biopsy attempts	No. of successful biopsies	% of successful biopsies
Iverson & Brun (1951) ...	66	80	42	52·5
Parrish & Howe (1955)	100	160	100	50·0
Kark & Muehrcke (1954) ...	47	50	42	84·0
Raaschon (1954) ...	171	215	82	38·2
Sarin & others (1957)	34	35	20	57·1
Gupta *et al* (1958)	107	116	107	92·2
Bohne *et al* (1958)	—	30	23	76·0
Schwiebinger *et al* (1958) ...	—	44	24	54·5
Present series (1960)	170	203	151	74·38

Table 2—Showing the Results in 52 Failure Cases

Tissue	No. of cases
Only tubules	18
Pelvis of kidney	1
Skin	5
Liver	3
Fibrofatty tissue	9
Blood clot or no tissue	16

administered. The patients felt better soon after. One of them was a sensitive young boy of 13 years, who was apprehensive of the results of biopsy and not very co-operative during the procedure. The collapse was perhaps psychogenic in origin, and the sedation was insufficient. Gross haematuria occurred in only 3 patients (1·4 per cent), and one of them was a young diabetic (incidentally this was the first biopsy performed in our unit) in whom the renal pelvis was punctured. He developed frank haematuria within half hour of biopsy and this persisted for about ten hours. During this period he had a severe colic which was relieved after the passage of a blood clot of the size of $\frac{1}{4}'' \times \frac{1}{2}''$. No special treatment was necessary, and the patient made an uneventful recovery. A subsequent biopsy performed a week later was successful and uncomplicated. The second patient was again a young diabetic who developed haematuria soon after a successful biopsy. The haematuria persisted for about 24 hours. The third was a patient of nephrotic syndrome in whom haematuria persisted for 24 hours but was not severe enough to warrant any active treatment. Microscopic haematuria occurred in nearly all cases and

was transient. One patient developed a small perirenal haematoma 3 days after the biopsy but did not require surgical evacuation—this was a young woman with chronic glomerulonephritis with hypertension and uraemia. Other minor side-effects like vomiting, suppression of urine, post-biopsy pyrexia, local pain and discomfort were met with in some cases.

The typical swing of the needle has been described by nearly all workers as a valuable guide to the entry of the needle in the kidney. Difficulty was however experienced in the obese, grossly oedematous and breathless patients. The only definite criterion of the needle having entered the kidney was the characteristic 'feel' that could be recognised only after experience. Another technical difficulty was in cases of young diabetics with extreme wasting. In these patients the lower ribs were usually very oblique, so that only the lower pole of the kidney was left uncovered by the ribs. Hence in the early attempts the biopsy needle missed the kidney completely. Subsequently, the direction of the needle in such cases was made more obliquely upwards and the results were successful.

In successful biopsies, the tissue on an average measured from 5 to 15 mm. in length, the longest piece however was 22 mm. Almost every specimen contained large number of glomeruli (8 to 32), proximal and distal tubules, blood vessels and occasionally parts of renal medullary elements. These were sufficient for histopathological examination.

TABLE 3—SHOWING ANALYSIS OF THE 151 BIOPSY-POSITIVE CASES IN RELATION TO THEIR CLINICAL STATES

Clinical diagnosis	No. of patients
1. Nephrotic state	57
2. Diabetes mellitus	37
3. Essential hypertension	26
4. Normal	10
5. Other clinical states	21
(a) Proteinuria of unknown origin	1
(b) Acute anuria	1
(c) Wilms' tumour	1
(d) Lupus erythrematosus of the skin	2
(e) Scleroderma	2
(f) Congestive heart failure ...	4
(g) Portal cirrhosis	4
(h) Pulmonary tuberculosis ...	6

The patients in the present series consisted mainly of those suffering from glomerulonephritis, nephrotic syndrome, essential hypertension, diabetes and others. For the sake of simplicity, glomerulonephritis and nephrotic syndrome have been grouped together under the common heading of 'nephrotic state', thereby implying a renal disorder characterised essentially by oedema and proteinuria—other criteria of genuine nephrosis having been compromised to varying degrees in individual cases. The number of patients with different renal or extrarenal disorders is shown in Table 3.

Nephrotic state—Renal histopathology in 57 patients of this group provided exact aetiological diagnosis. It would be incorrect to state that this could not have been made clinically for in a fair proportion, the clinical impressions were confirmed after biopsy. Thus, acute proliferative glomerulonephritis (2 cases) and advanced chronic nephritis (9 cases) were always easily diagnosed on clinical grounds. Difficulty was, however, encountered in patients presenting with oedema and proteinuria of some duration with vague history of the onset of symptoms and manifesting most features of a nephrotic syndrome. It was in patients of this group that clinical diagnosis was generally found incorrect. Thus, out of 42 such patients, fifteen turned out to be those of renal amyloid disease and only two of these were clinically suspected; two were histologically cases of

TABLE 4—SHOWING HISTOLOGICAL FINDINGS IN 57 PATIENTS OF NEPHROTIC STATE

Histological diagnosis in nephrotic state		No. of patients
Acute glomerulonephritis		2
Subacute glomerulonephritis		25
(a) Lesions chiefly proliferative with capsular adhesions, tendency towards crescent formation or fully developed crescents (histologically type I) ...	10	
(b) Lesions chiefly consisting of basement membrane thickening, capillary dilatation, glomerular hypercellularity and lobule formation (histologically type II)—also showing inconstant and minimal lesions ...	15	
Chronic glomerulonephritis		9
Amyloidosis		15
(Two patients with positive Congo red test and one patient each with pulmonary tuberculosis, bronchiectasis and tertiary syphilis)		
Lipoid nephrosis		2
Hypertensive nephrosclerosis		2
Diabetic glomerular lesions		2

lipoid nephrosis; and twenty-five had renal lesions of subacute glomerulonephritis either of proliferative, crescentic, lobular or membranous nature. These lesions embraced the histological types described by Ellis of both type I (10 cases) and type II (15 cases) nephritis. A reconsideration of clinical features of these 25 patients failed to convince us of the validity of such a subdivision on clinical grounds. This margin or error was further amplified if cases proved to be of renal amyloidosis were also included, in view of the fact that most of them fell into the category of type II nephritis, since Congo red test was negative and a predisposing disease absent. In addition to these, exudative and diffuse glomerular lesions of diabetes mellitus and hypertensive nephrosclerosis were found to be responsible for the nephrotic state in each of the two patients. These details are given in Table 4.

Diabetes mellitus—Findings in 37 patients of diabetes mellitus were interesting. These patients included almost equal number of young and elderly diabetics. The duration and severity of diabetes varied considerably in individual cases, but on an average patients of both age groups were fairly identical. Only six of the elderly diabetics had proteinuria, hypertension and renal functional impairment. Renal biopsy showed diabetic glomerular lesions in one or other form in as many as 28 patients (75·6 per cent), only 9 having a completely normal renal architecture. The most significant observation was that 15 of these 28 patients were young-diabetics below the age of 30 years, the duration of the disease varying from 6 months to 4 years. Their average fasting blood sugar was 400 mg. per 100 ml., with otherwise completely normal renal functions. Detection of renal lesions in these 15 patients was most unexpected and so it was in the 7 other elderly diabetics with no trace of albumin in urine and completely preserved renal functions.

The lesions were chiefly of the diffuse variety and were predominant in 26 biopsies. Nodular lesions in different stages of development were met with in 7 instances, but five of these were associated with diffuse basement membrane lesions. Exudative lesions in glomeruli were observed in six specimens in association with diffuse lesions. Incidentally all these patients were young diabetics with relatively recent and acute onset of symptoms. Detailed histopathological study of 27 patients of this group has already been presented (Mathur *et al*, 1960a).

Essential hypertension—26 patients with essential hypertension revealed renal lesions of different grades. Clinical grading of hypertension, in terms of blood pressure readings, was made according to the criteria laid down by Schroeder (1953). Thus there were four patients of grade I; 10 of grade II; 8 of grade III and 4 of grade IV hypertension. All except 8 patients had albumin-free urine and normal renal functions, and they belonged to grades III and IV hypertension. Renal histopathology showed lesions of grade I in only one patient, of grade II in 10 patients, of grade III in 11 patients, and of grade IV in 4 patients.

The histopathological study was primarily focussed on changes in the blood vessels of the kidney, including those of the capillaries of the glomerular tufts and it was on the basis of these vascular changes that histological grading of hypertensive nephropathy was made. Thus, the earliest changes were characterised by slight thickening of the capillary basement membrane of the glomerular tufts with capillary dilatation. Arteriolar changes revealed prominent endothelial hyperplasia. In the second grade, proliferative lesions in glomeruli could be made out clearly. Besides, this stage revealed marked medial hypertrophy and a remarkable feature was tubular dilatation with atrophy of the lining cells. In the third grade, lesions were more advanced with hyalinisation of glomeruli, fibrotic changes, marked 'onion peeling' appearance of the arteriolar medial coat with narrowing of the lumen. Tubules revealed still more marked dilatation with increase in interstitial tissue. In grade four, changes of malignant hypertension were characteristic. Most glomeruli were scarred and hyalinised, the capsule being thickened. Arterioles showed distinct medial hypertrophy and eosinophilic granular staining fibrinoid changes in the vessel wall were evident. The endothelium was necrotic and red cells permeated into the vessel wall.

Besides the types of renal lesions met with in different stages of hypertension the interesting feature was the extreme poor correlation between the level of blood pressure, renal functions and histology. Thus, many cases with clinically grade I hypertension and normal renal functions had third grade renal lesions as seen by biopsy. Similarly, there was poor correlation between the blood vessel changes in the retina and kidney except in patients with malignant hypertension. Another characteristic finding which we wish to emphasise, and which curiously was reported earlier only by Sommers *et al* (1958), is the varying grades of tubular dilatation with atrophy of the epithelial cells. Though this lesion became clearly recognisable in hypertensive lesions of some duration the tendency towards such dilatation could be made out even in the earliest stage of nephropathy.

Normal renal histology—Only ten normal kidneys were biopsied and results, though from a small number, need mentioning. The histopathology differed from conventional descriptions in certain respects. Thus, the height of the cells of the proximal convoluted tubules was found to vary and the cells were not well defined on the luminal side, and the lumen often contained protoplasmic debris. The glomeruli too differed from the usual autopsy picture. The capillary loops as a rule appeared empty and bloodless—the finding being in striking contrast to the normal description of dilated and full capillary loops. Also protein-like precipitates were often found in capsular spaces, even where proteinuria was absent. This was not considered to be an abnormal observation. Besides other details the most important observation was that cells of proximal tubules usually showed the picture of classical 'cloudy swelling'.

Other clinical states—Amongst these twenty-one biopsies, there were six cases of pulmonary tuberculosis without proteinuria or bacilluria and all showed normal renal histology.

Four biopsies each from patients of congestive cardiac failure and cirrhosis of liver revealed massive venous congestion, but were otherwise negative.

One child with a renal lump, diagnosed as Wilms's tumour was biopsied and confirmed the clinical impression. As a rule biopsy is contraindicated in renal neoplasms. But this particular biopsy was undertaken only to see if it was possible to do so without any risk, and also to study the pattern of tumour histopathology. Though the biopsy was uncomplicated, yet we later felt that it was unwarranted and hazardous.

Two cases of lupus erythematosus of the skin with albumin-free urine, on biopsy revealed renal lesions. In one the glomeruli had typical wire loop glomerulitis in addition to epithelial crescents and cellular hyperplasia. In the other the thickening of the capillary basement membrane was unspecific and could only be classed as 'abnormal'. These resembled the earliest lesions of subacute 'membranous' glomerulonephritis. Both these patients were suffering from the disease limited to the skin and there was no clinical evidence of the involvement of the other organs. Demonstration of renal lesions, though non-specific in one case, proved the systemic dissemination of the disease, a diagnosis which could not have been made otherwise.

Similarly, renal involvement in two cases of scleroderma was demonstrated in the absence of proteinuria and abnormal renal functions.

The most interesting case was that of a young adult who complained of weakness and easy fatigue and who drew our attention because of an albumin-positive urine report that he was carrying. On examination, he was found pale, hypertensive and azotaemic. Further investigation showed his urine to be of normal specific gravity containing on an average 7 to 8 g. of albumin per litre, and granular casts. There was gross insufficiency as revealed by renal function tests. He had never suffered from oedema. Renal biopsy revealed moderately advanced amyloidosis. Careful search for a primary focus was unrewarding and so were the results of Congo red test and liver biopsy. He was considered to be a case of chronic glomerulonephritis in a non-oedematous phase. He might have had an acute onset in childhood, since forgotten. The possibility of renal amyloid disease did not even occur to us, and the diagnosis could never have been made without the biopsy.

Similarly, a diagnosis of cortical necrosis of the kidney was made in one patient who presented with acute anuria (Mathur *et al*, 1960a).

Comments

The foregoing observations clearly indicate that needle biopsy of the kidney is a reliable and safe procedure which in experienced hands is devoid of risks. It is an important advance in the diagnosis of renal diseases. We have accepted the contraindications recommended by Kark and Muehrcke (1954), but it is felt that conditions like aneurysm of the renal artery and solitary kidney are of very rare occurrence to be included in the list of general contraindications. Uraemia and hypertension *per se* have not been accepted as contraindications by most workers (Kark and Muehrcke, 1954; Brun and Raaschou, 1958). We have performed biopsies in 45 such patients and only one was complicated by a small retroperitoneal haemorrhage.

The utility of kidney biopsy in accurate diagnosis is self evident. Most of the reports in cases of glomerulonephritis (Ross, 1959) and nephrotic syndrome (Joekes *et al*, 1958) emphasise this fact. The high frequency of renal amyloidosis in the absence of a predisposing disease (Sarin *et al*, 1957; Sarin and Sarin, 1958; Gupta *et al*, 1958; Mathur and Srivastava, 1960b) is of interest. At present we are not in a position to state the true incidence of the disease, but it is felt that at least in this country amyloidosis of kidney is a frequent cause of nephrotic state and should be carefully looked for. Also minimal basement membrane changes have been a puzzling feature in patients with nephritis, the more so because, in many there have

been profound biochemical, functional and clinical disturbances. Reversal of glumerular changes following steroid therapy has been demonstrated by Mathur *et al* (1959) and often serial renal biopsy can be used in the prognosis of a nephrotic patient. It is of importance that with practically identical onset and clinical features, histopathology of the kidney has revealed changes of varied nature. Thus focal or diffuse thickening of the basement membrane, proliferation of capillary or capsular endothelium, or crescent formation have all been seen and it is impossible to foretell the type of renal lesion on clinical grounds. This undermines the concept of nephrotic syndrome, especially that propounded by Ellis and it is felt that with wider application of needle biopsy and accumulation of clinical and histological data, an accord will soon be reached in respect of a uniform nomenclature of the 'nephritis group' of renal diseases.

Renal biopsy in diabetes mellitus has revealed well marked glomerular lesions even in the young subject with normal renal functions. This finding points to a very early involvement of the renal blood vessels, the nature of which is not fully understood. Studies with electron microscope and examination of biopsy specimens by histochemical methods are likely to provide an answer regarding the exudative and diffuse lesions met with an diabetic nephropathy.

In patients with essential hypertension, renal biopsy has provided a link in the understanding of the pathogenesis of nephrosclerosis and has established a poor histofunctional relationship.

In other collagen diseases, renal biopsy has revealed lesions at a stage when they were unsuspected and equally rewarding have been studies in cases of pregnancy toxaemias and pyelonephritis. Similarly, studies in specimens obtained from normal people show important differences from standard descriptions. Quite naturally clinicians are hesitant to biopsy a normal person.

Incidentally this calls for a general opinion in respect of the use of the needle biopsy technique. Although no significant complications followed the procedure, some patients had to undergo surgical operations, including nephrectomy, as a result of the procedure. It is felt that the technique should be employed more widely, but at the same time the zeal of the investigator must not take him too far. Though as many as four biopsies have been reported on a single patient giving useful information, this in itself is not an adequate justification for such potentially risky procedure. The biopsy should therefore be undertaken only when the results are expected to be of direct or indirect advantage to the patient, and not merely for academic interest. Renal biopsy has a definite place in the investigation of renal diseases and should be used more frequently but judiciously. It should be employed with restraint when indicated.

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CLINICAL TRIAL OF A NEW CORTICOSTEROID (DEXAMETHASONE)

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Dexamethasone is a new synthetic corticosteroid which appears to be the most powerful of all synthetic corticosteroids. Its chemical formula is 9-fluoro-16 methyl-prednisolone, the fluorine atom in position 9 considerably reinforces the anti-inflammatory property of prednisolone and due to the presence of a methyl radical in position 16, dexamethasone does possess very little water and sodium retention properties.

Its advantages over other corticosteroids have been claimed as follows:

1. Anti-inflammatory activity is intense. It is about 7 times more potent than prednisone and prednisolone, 27 times more potent than hydrocortisone and about 35 times more potent than cortisone.
2. Anti-allergic activity is great.
3. The relative absence of sodium and fluid retention in the body.
4. No hyperglycaemic activity.
5. Minimum side-effects.
6. Cases refractory to other corticosteroids respond well to this drug.

Material and Method

With this drug we treated 24 cases as follows: 6 cases of rheumatoid arthritis, 5 cases of sub-acute nephritis, 4 cases of sub-acute hepatic necrosis, 2 cases of pleurisy with effusion, 3 cases of bronchial asthma, 1 case each of reticulosis, tropical eosinophilia, dermatomyositis and filariasis. Total 24.

Therapeutic dosage—An initial daily dose of 4 mg. of dexamethasone in 4 equally divided doses was prescribed for advanced cases of rheumatoid arthritis, sub-acute hepatic necrosis and in the case of filariasis. In other cases an initial daily dose of 3 mg. was prescribed. The doses were gradually tapered off according to severity and response, and the average maintenance dose was 1 to 2 mg. per day.

Duration of treatment—In rheumatoid arthritis, the longest duration was 82 days and the shortest 17 days, the average being 47·6 days. In sub-acute hepatic necrosis 2 to 25 days, sub-acute nephritis 12 to 14 days, pleurisy with effusion 14 days, bronchial asthma 9 to 25 days, reticulosis 18 days, tropical eosinophilia 14 days, dermatomyositis 11 days and filariasis 92 days.

Results of Treatment

In rheumatoid arthritis the results were very satisfactory. In all cases pain, the most distressing symptom, diminished significantly within 24 to 48 hours and became negligible after 7 days. Three cases were fairly advanced (duration 2½ years, 3 years and 10 years), and almost all the joints were affected with marked ankylosis and deformity. We observed that slight movements were possible even in the ankylosed joints where movements were absent. Amongst these advanced cases, in one case kyphosis disappeared and in another case, the patient could sit on the side of the bed, which was not possible before treatment. The other 3 patients were early cases (duration 1½ months, 3 months and 1 year) and were cured of pain and swelling of the joints after 15 to 20 days' treatment. The movements of the joints were fully restored and there was no relapse. E.S.R. in all these cases was recorded before and after treatment. The E.S.R. readings came down remarkably after treatment but in none of them was the normal level reached.

In two cases of sub-acute nephritis, the urinary output was very much diminished, oedema increased, and as a result the treatment with dexamethasone was stopped after 12 days in one case and after 14 days in another. We did not notice any withdrawal diuresis in these two cases, although the drug was stopped for 7 days and then we had to switch on to hydrochlorothiazide (Esidrex) and the result was very satisfactory. The other 3 cases of sub-acute nephritis responded well. Diuresis started on the 3rd day of treatment and the oedema cleared up after 7 days. Curiously all these cases were children of 8, 11 and 12 years.

Four cases of sub-acute hepatic necrosis were treated with dexamethasone, 3 cases responded very well. The ascites, oedema and jaundice cleared up, sense of well-being returned and appetite improved. The extensive corneal ulcers on both eyes, which were present in one of these cases (female 28 years old), also improved remarkably and the patient gained considerable vision. The fourth case of this group was treated during the stage of cholaemia and the patient died after two days' treatment.

Two cases of pleurisy with effusion were treated with dexamethasone for 14 days. Skiagram of the chest before and after treatment did not reveal any significant improvement as regards the amount of fluid, although some observers have claimed

spectacular results with dexamethasone treatment. These two cases later responded well to anti-tuberculous drugs.

Three cases of bronchial asthma were treated in a stage of status asthmaticus ; and all of them responded very well with dexamethasone. One case was treated with 2 mg. daily, and the response was not very satisfactory ; but as soon as the dose was increased to 3 mg, there was remarkable improvement. The second case was complicated with right-sided pneumothorax. The response was not dramatic in the initial stage but he slowly improved and was completely free from symptoms after 25 days of treatment. The third case responded well with 2 mg. daily.

One case of tropical eosinophilia which was refractory to routine treatments, such as arsenic, diethylcarbamazine, antihistaminics, heavy doses of ascorbic acid, sulphathiazole and prednisolone was treated with dexamethasone for 7 days. After this the blood count did not reveal any satisfactory change. The W.B.C. count before treatment was 10,800 per c.mm. with eosinophils 34 per cent and after treatment for one week was 10,800 per c.mm. with eosinophils 30 per cent. So another course of treatment was given for 7 days. This time the W.B.C. count was 16,500 per c.mm with eosinophils 42 per cent. The patient was followed up for 15 days more and discharged in practically the same condition.

One case of reticulosis, a female child aged about 12 years, was treated with dexamethasone for 18 days but no improvement whatsoever was noticed.

One case of advanced dermatomyositis was treated for 11 days and no significant improvement was noticed.

One case of filariasis with extreme lymphatic oedema of the lower extremities, scrotum, penis and abdominal wall together with lymphorrhoea and ulcerations of legs was treated with this drug. This patient, aged about 55 years, was suffering from filariasis for the last 22 years, and for the last several years he was also suffering from bronchial asthma and a moderate degree of hypertension. Initially he was put on 4 mg. of dexamethasone daily and the maintenance dose was 1·5 mg. daily. After three months' treatment, the patient remarked that never in his life previously was there such remarkable diminution in the size of the scrotum and the lower extremities, and that never before was he so free from dyspnoea. Although the treatment was continued for three months, we did not observe any adverse effect on hypertension.

Side-Effects

In therapeutic doses all the patients tolerated the drug well. The sweat-producing effect of dexamethasone, as claimed by some observers, was not noticed in any of our cases. Glycosuria and hypertension were not noticed either.

One of the patients (advanced rheumatoid arthritis in a 33 year old male) complained of gastric pain and acidity during the course of treatment with dexamethasone. On careful enquiry it was revealed that this patient had such symptoms previously. His symptoms cleared off with a carminative-belladonna mixture and pulv. triple carbonates.

Curiously enough, a case (rheumatoid arthritis in a 42 year old female) developed pruritus in both upper and lower limbs during the course of treatment with dexamethasone, which subsequently subsided after application of lotio calamine. In this case the antipruritic value of this drug seemed to fail.

In 3 cases of rheumatoid arthritis treated for a long period (exceeding two months) we observed 'mooning of the face'.

Summary

24 cases suffering from varied diseases were treated with dexamethasone. All the cases were put on ordinary dietetic regime with no restriction of sodium or supplement of potassium. The response was very satisfactory in cases of rheumatoid arthritis, bronchial asthma and sub-acute hepatic necrosis. We feel that particularly in sub-acute hepatic necrosis the result was spectacular, although one case died when the treatment was started during the stage of cholaemia.

In sub-acute nephritis, the result was good in three cases—all children, but the two adult cases did not show any improvement ; on the contrary, their condition became worse. At present we cannot explain this anomaly. We did not observe any good effect in cases of pleurisy with effusion, reticulosis, tropical eosinophilia and dermatomyositis. The number of trial cases, however, was very small. In the case of filariasis the value of the drug is yet to be assessed.

The side-effects were minimal. None of our trial cases developed glycosuria or hypertension. Only one case complained of gastric pain and acidity but he had these symptoms on previous occasions before treatment. No complication was observed from the point of view of circulation and blood composition. There were no psychopathic disturbances in our cases and none complained of insomnia. Three cases developed 'mooning of

face' after treatment for more than two months. One case had pruritus.

Although the trial was a modest one and the number of cases treated was small, it is believed that this new corticosteroid has distinct advantages over other corticosteroids used so far by the authors.

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PRACTITIONERS' SERIES

COMMON DISTURBANCES OF THE RATE AND RHYTHM OF THE HEART AND PULSE: THEIR CLINICAL RECOGNITION, SIGNIFICANCE AND TREATMENT

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Disturbances of the rate and rhythm of the heart and pulse though commonly met with in general practice may cause confusion in diagnosis leading to wrong prognosis and incorrect treatment. From the clinical point of view, these disturbances may be conveniently classified as follows:

A. *Tachycardia*:

1. Sinus.
2. Ectopic:
   (a) Regular—Paroxysmal tachycardia (auricular, ventricular and nodal).
   (b) Irregular—Auricular fibrillation, some cases of auricular flutter.

B. *Bradycardia*:

1. Regular—Sinus bradycardia, 2: 1 sino-auricular block, or 2: 1 auriculoventricular block, complete heart block, slow auricular flutter with high grade functional auriculoventricular block, nodal rhythm.
2. Irregular—Sinus arrhythmia, slow auricular fibrillation, auricular flutter with slow rate with high but varying degree of functional auriculoventricular block.

C. *Rate more or less normal but the rhythm irregular*:

Sinus arrhythmia, premature contraction, partial heart block, auricular fibrillation, auricular flutter.

D. *Arrhythmia caused by markedly prolonged pauses in heart*:

Sinoauricular block, severe grades of auriculoventricular block, associated with Stokes-Adams syndrome.

E. *Alteration of the volume of pulse*:

1. Regularly recurring—Alternate premature contractions, the premature beats being palpable at the wrist. Pulsus alternans. Pulsus paradoxus.
2. Irregular—Auricular fibrillation, premature contraction coming on irregularly.

Perhaps one can briefly recapitulate with advantage the basic physiology of cardiac contractions to facilitate a clear understanding of the disturbances.

The rhythmic impulses for cardiac contraction arise in the sino-auricular node, which is normally the pacemaker of the heart. The impulse then rapidly spreads over the auricles to the A.V. node where it is slightly delayed and then spreads down the bundle of His and its branches and *via* the Purkinje system to the ventricular muscles which then contract in response to the stimulus received from the auricle. Or in other words, normally auricles follow the S.A. node and ventricles follow the auricles in a sequential manner.

When the activity of the S.A. node is depressed, lower centres may act as pacemakers, e.g., the A.V. node which normally has a slower rate of impulse formation than the S.A. node and thus in normal circumstances cannot function as a pacemaker, but when necessary it can take over the function of pacemaker and control the rhythm of the heart. Similarly foci in auricles, junctional tissues and the ventricles can sometimes control the rate and rhythm of heart.

A. Tachycardia

Normally it is unusual to have resting pulse and heart rate more than 100 per minute in an adult, and so rates above this figure when the person is at rest, could be arbitrarily called tachycardia. In sinus tachycardia the rate is usually between 100 and 140 per minute. Rate above 160 per minute is uncommon.

SINUS TACHYCARDIA:

It is due to acceleration of the impulse formation at the sinus node. This is caused by depression of the vagus or stimulation of the sympathetic. The common clinical conditions in which sinus tachycardia is found are exercise, excitement, emotion, anxiety states, neurocirculatory asthenia,

anaemia, thyrotoxicosis, cardiac failure and shock, Evidence of latent thyrotoxicosis should always be looked for in cases of unexplained tachycardia.

Sinus tachycardia can be recognised by the following:

(*i*) Presence of an obvious cause.

(*ii*) The patient may give the history that the tachycardia did not come on suddenly (as is usual in ectopic tachycardia) and subsided gradually.

(*iii*) On inspection of the neck, the normal wavy type of venous pulsation of increased rate and the characteristic systolic collapse are found in the jugular veins.

(*iv*) The exercise test—The patient is made to sit up and lie down in bed ten times. The acceleration of rate is gradual and the rate comes down gradually after the exercise.

(*v*) Carotid sinus pressure—The patient should be in recumbent position. The carotid sinus is located at the level of the upper border of the thyroid cartilage, and pressure is applied on it backward and medially compressing it against the cervical spine for a few seconds while the heart is being simultaneously auscultated. Temporary slowing is obtained in sinus tachycardia while the pressure is being exerted.

Once the clinical diagnosis of sinus tachycardia is established, if necessary, confirmation of the diagnosis may be obtained by an E.C.G. tracing.

Sinus tachycardia needs no particular treatment. The underlying cause should be treated and the patient should be assured of the non-existence of organic heart disease, if there be none.

ECTOPIC TACHYCARDIA WITH REGULAR RHYTHM:

These could be of the auricular, ventricular or nodal variety. They are caused by rapid ectopic impulse production in one of the chambers of the heart or in the junctional tissue causing sudden paroxymal acceleration of the heart rate. The original sinus rhythm which has a much slower rate than that of the ectopic centre, cannot function as a pacemaker.

Diagnosis of paroxysmal tachycardia can be made at the bedside by consideration of the following features:

(*i*) The tachycardia comes on suddenly without any apparent cause and usually disappears suddenly. The patient is conscious about the sudden onset and sudden disappearance of the attack.

(*ii*) Rate: The rate is usually over 150 per minute—commonly it is between 180 and 220. The rate is remarkably constant and does not vary with exercise or emotion. If the physician be not lucky to see the patient during the actual attack, he should attempt to imitate the cardiac rate by tapping the table at varying rates. An intelligent patient may then be able to point out to him the probable rate at which his heart was beating during the attack.

(*iii*) Carotid sinus pressure—This does not slow the rate but sometimes causes the ectopic rhythm to disappear suddenly.

It is important to try and determine the type of tachycardia because treatment of supraventricular and of ventricular tachycardia is different. Clinical differentiation between the three types of ectopic tachycardia is not easy but the following points may be helpful in arriving at a diagnosis:

In nodal tachycardia tall systolic pulsation in neck veins resembling arterial pulsation may be noticeable. Sometimes however the phenomenon may also be seen in auricular tachycardia. In ventricular tachycardia the rhythm may sometimes be slightly irregular and on careful auscultation the first sound may sometimes be found to vary in intensity and pitch due to the varying position of auriculoventricular valves during ventricular systole.

Occasionally large jugular waves can be seen on careful inspection.

Carotid sinus pressure may suddenly abolish the supraventricular tachycardia but has no effect on ventricular tachycardia. Further ventricular tachycardia is usually associated with organic heart disease and is more common in elderly idividuals who suffer from ischaemic heart disease. It may also be associated with cardiac infarction.

Ectopic tachycardias may occur with normal heart or be associated with organic heart disease and their effect on circulation depends on the rate, duration and presence or absence of associated organic heart disease. In about 20 per cent of cases ventricular tachycardia is innocent and is not associated with gross organic heart disease.

Whenever facilities are available it is advisable to have E.C.G. taken during an attack before deciding on the treatment, as sometimes the same patient may have different types of ectopic tachycardia on different occasions. The procedure for supraventricular tachycardias should be as follows:

Carotid sinus pressure should be tried first. If carotid sinus pressure fails to cause reversion to sinus rhythm, lanatosid C (cedilanid) 0·4 mg. in 10 c.c. of 25 per cent glucose should be injected very slowly intravenously. The procedure should not be completed in less than five minutes. If no response is obtained within thirty minutes carotid sinus pressure should be repeated, as digitalis sensitises the carotid sinus and if still no effect is obtained, another injection of 0·4 mg. should be given slowly. Usually the attack stops suddenly after one or two injections of cedilanid. In those

cases where cedinalid is not successful in stopping the attack, quinidine should be tried (the procedure is described under ventricular tachycardia).

Parasympathomimetic drugs like mecholyl sometimes quickly stop the attack but as side-reactions are common one should be careful in employing the drug. It is contraindicated in patients with history of asthma. If it be decided to use the drug the following procedure should be adopted. The sphygmomanometer cuff should be applied on the arm where mecholyl is going to be injected. A syringe containing 1 mg. (1/60 gr.) of atropine sulphate should be kept handy. Injection of mecholyl should be given subcutaneously below the sphygmomanometer cuff. At the slightest evidence of untoward reactions which are marked perspiration, salivation, flushing of the face, dyspnoea, epigastric discomfort, nausea, and vomiting, the spygmomanometer cuff should be inflated and atropine should be injected in the other arm intramuscularly. Rarely it may be necessary to inject atropine intravenously very slowly in 20 c.c. of 25 per cent glucose.

The drug of choice for the treatment of ventricular tachycardia is quinidine. After a preliminary test dose of 3 gr., the drug may be administered in doses of 6 gr. every two hours until tachycardia stops. Usually it is not advisable to exceed 30 gr. An E.C.G. control, whenever available, is advisable for sometimes the rate slows down but the sinus rhythm may not return. Further, quinidine toxicity may be revealed in the E.C.G.

When the tachycardia has stopped, a daily maintenance dose of 15 to 18 gr. of quinidine may be given. After a few days the dose may be gradually reduced and its administration is finally stopped in about a week. When vomiting prevents effective administration of the drug by mouth but the condition of the patient demands administration of quinidine, the drug can be given by the intramuscular route. After the usual test dose, 7½ gr. of quinidine lactate may be injected deeply into the glutei. The injection may be repeated every two hours, as necessary. Intravenous injections of the drug may be avoided unless it be absolutely necessary to give the drug by this route. The oral route is quite satisfactory in most cases.

If adequate doses of quinidine fail to act, procaine amide should be tried orally. The initial dose is 1 g., followed if necessary by 0·5 g., every 2 hours till the sinus rhythm is restored. If vomiting prevents oral administration, the drug can be given intramuscularly. The dose is 1 g. in 10 ml. The effect may be noticeable within 3 to 15 minutes. Peak effect occurs within one hour. If no effect is obtained, subsequently 200 mg. of the drug may be given at intervals of 2 hours till the arrhythmia has been controlled. The drug can also be given intravenously, 1 g. in 10 ml. The rate of injection should not exceed 1 ml. per minute, and the injection should be stopped as soon as the tachycardia has stopped, or toxic symptoms appear, e.g., hypotension and shock.

Sometimes vasopressor therapy is of value in paroxysmal tachycardia associated with shock, in cases of acute cardiac infarction. Drugs like corvasympton or binudrinal intramuscularly or noradrenaline in 5 per cent glucose by slow intravenous drip may be used. With the restoration of blood pressure to normal levels arrhythmia may disappear. Care should however be taken to avoid a sharp rise of pressure to hypertensive level.

ECTOPIC TACHYCARDIA WITH IRREGULAR RHYTHM :

Auricular fibrillation—Tachycardia with rate over 120 per minute, with irregular rhythm is almost always due to auricular fibrillation. The pulse is grossly irregular and there is no basic rhythm. It is easier to recognise the irregularity on auscultation of the heart than by palpating the pulse. There is also a varying amount of pulse deficit. With very high rates, the irregularity may be less apparent, but after careful auscultation the issue is hardly ever in doubt. Carotid sinus pressure has no effect on the tachycardia.

Auricular flutter—Usually the rate and the rhythm is regular—the rate being about 150 per minute due to 2 : 1 functional block. Sometimes however the degree of block varies so frequently that the rhythm of the heart and pulse appear quite irregular. On careful auscultation however one can appreciate that there is an underlying basic rhythm. A few beats are regular and then the changes (grouping of beats). This feature differentiates it from auricular fibrillation. Pulsation of the neck veins may also offer some help in differentiating the condition from auricular fibrillation.

Carotid sinus pressure either does not affect the rhythm or causes sudden slowing of heart, e.g., from 150 to 100 per minute by increasing the grade of functional block.

Tachycardias due to auricular fibrillation and flutter should be treated with digitalis. If there be any urgency cedilanid 0·4 mg. may be injected intravenously, and then digitalis continued orally till the patient is fully digitalised and then a maintenance dose is given to keep the ventricular rate between 70 and 80 per minute. In some cases when the heart is not grossly enlarged an attempt should be made to restore normal rhythm with quinidine.

For auricular flutter the best plan is to digitalise till flutter changes to fibrillation with slow rate and then to stop the digitalis. The rhythm may return to normal.

B. Bradycardia

BRADYCARDIA WITH REGULAR RHYTHM :

Rates below 60 per minute may be arbitrarily designated as bradycardia. Sinus bradycardia is due to increased vagal tone. It may be found normally in certain individuals, specially in the athlete. It is also found in association with certain diseased states, e.g., myxoedema, obstructive jaundice, in conditions where there is a rise in intracranial tension, and sudden rise in blood pressure as in acute nephritis. It is also found during convalescence from acute fever.

It has to be differentiated from sino-auricular block (2 : 1), A.V. block (2 : 1), complete heart block and nodal rhythm. Clinical diagnosis at the bedside is possible with reasonable certainty though an E.C.G. is of great value in confirming the diagnosis. Inspection of the neck may show that while in sinus bradycardia the pattern of venous pulsation in the neck is normal and the number of 'a' waves is the same as the number of ventricular beats, in 2 : 1 A.V. block and complete heart block, there should be more 'a' waves than in the ventricular beats. In sino-auricular block (2 : 1) as the auricles do not contract in response to the blocked impulse the number of 'a' waves would be the same as that of the ventricular beats. In complete heart block auscultation of the heart may reveal varying intensity of the first sound (due to varying position of A.V. valves just before ventricular contraction) with occasional cannon waves in neck when auricles and ventricles contract together. Exercise causes gradual acceleration of rate in sinus bradycardia whereas it causes sudden doubling of rate in 2 : 1 sino-auricular and A.V. blocks. In complete heart block there is hardly any definite acceleration of the rate.

When the activity of the sino-auricular node is depressed due to any cause and its rate falls below the rhythm of A.V. node, the latter may assume control of the heart and act as a pacemaker. Clinically it may be suspected if in association with bradycardia with regular rhythm, there are occasional cannon waves in the neck as in complete heart block. But in nodal rhythm on exertion, the rate quickens gradually as in sinus bradycardia. Nodal rhythm by itself is harmless and may sometimes be discovered accidentally in a normal person. The commonest cause however is digitalis therapy. However it is not an indication for stopping the drug if it still be needed. It may also be found in association with carditis due to any cause (rheumatism, diphtheria, Fiedler's disease). Thrombosis of the right coronary artery above the origin of the branch to the sinus node may be another cause of the condition.

Auricular flutter with a high grade of block may yet be another but infrequent cause of bradycardia with regular rhythm. Careful inspection of neck may show rapid feeble pulsation in the neck in association with the bradycardia. These are however not always visible. Exercise may sometimes help in the diagnosis of the condition, as it may reduce the degree of the functional block leading to sudden rise in rate as opposed to the gradual rise in rate on exercise in sinus bradycardia.

BRADYCARDIA WITH IRREGULAR RHYTHM :

The two common causes are sinus arrhythmia and slow auricular fibrillation. Though sinus arrhythmia is usually present in the young age group with normal heart, yet it may be present in older individuals with or without organic disease of heart. Sinus arrhythmia usually shows respiratory phasic variation, the rate being quicker in inspiration and slower in expiration but sometimes the irregularity may not show phasic variation and may simulate closely slow auricular fibrillation. In case of doubt the effect of exercise on the rhythm easily settles the diagnosis. In sinus arrhythmia with the acceleration of rate, the rhythm becomes regular, whereas in auricular fibrillation it continues to be irregular or becomes more irregular. Auricular flutter with high but rapidly varying degree of functional A.V. block may simulate sinus arrhythmia and slow fibrillation. The differentiating points however have already been discussed.

C. Arrhythmias Associated with Normal Rates

The common causes of arrhythmias when there is no definite bradycardia or tachycardia are sinus arrhythmia, premature contraction, partial heart block, auricular fibrillation and flutter. The diagnosis of sinus arrhythmia has already been discussed. Premature contraction is the commonest cause of arrhythmia in this group. When there are occasional dropped beats in the pulse, the diagnosis can be made easily by simultaneous auscultation of the heart and palpation of the pulse. In premature contraction, there is a dropped beat in pulse but simultaneous auscultation reveals evidence of ventricular contraction in the form of the presence of either one or two premature sounds

(depending on whether the premature beat was powerful enough to open the semilunar valves or not) followed by a compensatory pause. In partial heart block during the dropped beat in pulse, there is no evidence of ventricular contraction or in other words no heart sound is audible. Sometimes however in emphysematous patients or in patients with lots of adventitious sounds in chest, the soft premature sound may be missed. When the dropping of beats is frequent and irregular, auricular fibrillation may be simulated but in cases of doubt the effect of exercise on the arrhythmia would easily clinch the issue. The irregularity associated with premature contraction would disappear on exercise whereas with auricular fibrillation the irregularity would persist or become more marked.

Sinus arrhythmia does not indicate any disease and is due to alteration in vagal tone. Premature beats may be present in perfectly normal heart or be associated with gross organic heart disease. Hence the arrhythmia when considered by itself, is not of any prognostic value. The prognosis would then depend on the associated condition in the heart. Multifocal ventricular extrasystoles (which can only be diagnosed electrocardiographically) however are usually of serious prognostic import.

Ordinarily extrasystoles do not need any treatment. Any known cause (e.g., excess of tobacco, tea, coffee, distension of the stomach, digitalis intoxication, etc.) should be eliminated and the patient should be assured. If however it is frequent and cause symptoms sufficient to upset the patient, quinidine or potassium salt should be considered. Quinidine 12 to 18 gr. a day may sometimes stop or reduce the frequency of extrasystole. Similarly, potassium citrate or chloride gr. 20, thrice daily, along with carminative mixture and bromide may give relief to the patient.

D. Prolonged Pauses in Heart and Pulse

The causes are: Sino-auricular block or cardiac standstill, auriculoventricular block, particularly when the partial heart block is changing into complete (usually associated with Stokes-Adams syndrome), and ventricular fibrillation.

Sino-auricular block is generally associated with sinus arrhythmia with bradycardia. It may also be found during digitalis and quinidine therapy or be associated with hypopotassaemia. The patient gives history of attacks of faintness or syncope.

On examination during attack, if one is able to concentrate on the neck pulsation, one can notice the absence of neck pulsation during the pause in pulse and heart as opposed to cases with Stokes-Adams syndrome with auriculoventricular block when the auricular activity would be present in neck during the ventricular pause. Carotid sinus pressure may sometimes bring on an attack of cardiac standstill in a susceptible patient.

Attacks of sino-auricular block are usually not serious but rarely death may take place during the attack, if nodal or ventricular ecape-beats fail to appear. Usually however when the pause is very long, nodal escape-beat occurs.

If the attacks of sino-auricular block are frequent, one should review the aetiology and remove if possible a known cause and treat the patient with a combination of belladonna and barbiturate or a combination of ephedrine and barbiturate whichever be suitable for the patient.

Stokes-Adams syndrome is usually associated with an advanced degree of heart block, particularly where the partial heart block is changing into complete. In the minor type of the attack where the duration of ventricular pause lasts a few seconds only, the attack may resemble one of *petit mal*. Examination of the pulse and the heart during an attack settles the diagnosis. When ventricular inactivity lasts longer, the attack may resemble *grand mal*. The patients however do not bite their tongue or pass urine in bed during the attack. The association of this attack with absent pulse beat and heart sounds establishes the diagnosis. Presence of auricular activity in the neck differentiates the attack from sino-auricular block.

Stokes-Adams syndrome is usually present in elderly persons with ischaemic heart disease and the outlook is grave. Sudden death due to ventricular fibrillation is not uncommon. Usually death occurs within 3 or 4 years of the onset of the condition.

Attacks can be prevented by ephedrine gr. ½, thrice daily, orally. Atropine alone is usually not effective. In bad cases, adrenalin ½ c.c. may be given subcutaneously, three or 4 times a day.

Whenever possible an E.C.G. should be taken during the attack, because sometimes the attack is due to ventricular fibrillation and in those cases the use of adrenaline and ephedrine may be risky. Isoprenalin 20 mg. sublingually several times a day may prevent attack. If death be imminent due to ventricular fibrillation 5 to 10 ml. of 1 per cent solution of procaine may be injected into the heart.

Very slow heart rate may sometimes be associated by molar or ½ molar sodium lactate intravenously, 5 to 15 ml. per minute. In special

clinics external electric pacemaker has been used in tiding the heart over a critical period.

For the diagnosis of ventricular fibrillation E.C.G. is very necessary. The treatment of this emergency has been already described.

E. Regular Alteration of the Volume of Pulse

The cause of this type of alteration of pulse volume are pulsus paradoxus, alternate extra systoles palpable in the pulse and pulsus alternans.

Pulsus paradoxus can be detected by palpation of the pulse during deep inspiration. During deep inspiration the pulse volume diminishes (or the pulse disappears) and the volume becomes fuller on expiration. The condition is not caused by disturbed rhythm of the heart. The descent of diaphragm (to which the pericardium is attached) causes increase of tension in the pericardium during inspiration and thereby increases the tamponade causing diminution of the pulse volume. It is thus found in severe grades of pericardial effusion and constrictive pericarditis and signifies cardiac tamponade.

In alternate extrasystoles, the large beat and the small beat alternate but the rhythm is not regular. The small beat appears closer to the big beat and is followed by a compensatory pause. Or, in other words, there are groups of two beats followed by a pause. With quickening of the rate on exercise the irregularity disappears.

In pulsus alternans there is a regular sequence of a big beat and a smaller beat at equal intervals. This differentiates it from alternate premature beat where there is grouping of two beats followed by a compensatory pause.

Pulsus alternans is often missed clinically unless the pulse is carefully palpated. Whenever its presence is suspected, the diagnosis can be easily confirmed by sphygmomanometry. The pressure in the cuff is allowed to rise till the pulse beat disappears and then it is very gradually lowered. The pulse reappears and then when the pressure is further lowered by a few millimeters of mercury there is sudden doubling of the pulse rate due to the smaller beats coming through in the pulse wave.

Pulsus alternans except when it is associated with an attack of paroxysmal tachycardia, is always of grave prognostic significance and is indicative of gross organic disease of heart associated with left ventricular failure. The treatment of the condition is that of the underlying condition of the heart.

SPECIAL ARTICLE

IMPRESSIONS ON THE CLINICAL USE OF KEMICETINE SUCCINATE

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With the object of preventing sepsis kemicetine succinate was freely used prophylactically in cases in which, although there was no sign of infection, complete sepsis could not be assured at operation. In most cases 200-250 mg., I.M., was given 4- or 6-hourly according to the severity. In a few I.V. administration was also resorted to. In other cases 250 mg. capsule was given orally 4- or 6-hourly. In severe infection the initial dose was 500 mg., followed by 250 mg. 4- or 6-hourly. Vitamin-B complex was given orally, in doses of from 1 to 10 g., as a routine. In all cases operations were performed and the antibiotic was used postoperatively from the day of operation.

Prophylactic Use

The prophylactic use of kemicetine succinate is shown in Table 1.

In treating 27 cases of unilateral inguinal hernia we used 2·0-5·5 g. of kemicetine succinate per patient. In 4 cases low spikes of fever up to 99°F persisted for 3 postoperative days ; in others there was no fever after the operation. All wounds healed by first intention. Stitches were removed between the 5th and 8th postoperative days, according to the general condition of the patient. In healthy subjects all wounds united by the 5th day.

Out of 30 cases with lacerated wounds, 25 had multiple and 5 had single wounds. They were brought to the hospital within 6 to 10 hours of the injury. All the wounds were contaminated by coal particles (colliery accident cases). In all cases excision of the dead tissues, debridement and toiletting were done. It was not always possible to remove all the small particles of coal from the injured tissues. Only in badly contaminated cases 1 to 2 g. kemicetine succinate powder, obtained from the cut capsules, was used locally. Parenterally 2 to 8 g. of the antibiotic was used for each patient. We obtained perfect primary recovery in all cases except two, without any signs of local or general infections. These 2 cases healed by second intention. Wounds simply contaminated only by coal particles rarely suppurated. In some cases of compound fracture where the bone united in malposition, we had to do bone-plating

TABLE I—SHOWING PROPHYLACTIC USE OF KEMICETINE SUCCINATE IN SURGICAL CONDITIONS

Disease	No. of cases	Nature of operation	Dosage (systemic)	Remarks and result
Unilateral inguinal hernia ...	27	Herniorrhaphy and hernioplasty	2—5½ g.	In 4 cases low spikes of fever up to 99°F for 3 post-operative days. Recovery primary in all cases
Lacerated wounds	30	Excision and debridement	2—8 g.	Primary recovery in all except 2 cases which healed by 2nd intention. 1-2 g. of the drug used locally in badly contaminated cases
Vaginal hydrocele	30	Eversion of sacs and radical operation	1—5 g.	Fever with chill in three cases controlled by antifilarial drugs in combination with the antibiotic. Two developed mild diarrhoea. Over-all result good
Chronic appendicitis ...	4	Appendectomy	3—6½ g.	Recovery uneventful
Gall stone	1	Cholecystectomy		
Benign hypertrophy of prostate	6	Prostatectomy		
Fistula-in-ano	19	Fistulectomy	1—3 g.	No complication
Haemorrhoids (II and III degrees)	16	Haemorrhoidectomy		
Elephantiasis of scrotum and penis	6	Extensive excision of filarial tissues, eversion of tunica vaginalis and skin grafting	4—8 g.	Antifilarial drug for 3 weeks used as a routine. Recovery excellent
Family planning	2	Vasectomy	1 g.	Primary wound healing, with recovery
Superficial cysts and tumours	11	Excision	1½—3 g.	No complication

or grafting later on. The injury was treated at its early stage and there was primary healing. On exploration of soft tissues for bone plating/grafting, we found muscles and fasciae studded with black coal particles without any sign of infection. It seems that coal particles are sterile.

In 30 cases of vaginal hydrocele (17 bilateral and 13 unilateral) 1 to 5 g. of the antibiotic was used. Each of the 22 patients required only 1-2 g. of kemicetine succinate, and the remaining 8 patients needed 2-5 g. per head. In 3 cases fever with chill started from 2nd postoperative day. Use of antifilarial drugs along with this antibiotic controlled fever from the 6th postoperative day. In 2 cases there was mild diarrhoea which was controlled by vitamin B complex therapy.

In 4 cases of appendectomy for chronic appendicitis, 1 case of cholecystectomy for cholelithiasis, 6 cases of prostatectomy for benign hypertrophy of the prostate, no postoperative complications were noticed. 3 to 6·5 g. of the drug was used according to the severity of the infection for each case.

For fistulectomy (fistula-in-ano: 19 cases) and haemorrhoidectomy (2nd and 3rd degree internal piles: 16 cases), 1 to 3 g. of this antibiotic for each case was used and it resulted in primary recovery.

In all 6 cases of elephantiasis of the scrotum and penis, extensive excision of the filaria-affected tissues was done with radical operation for vaginal hydrocele and skin grafting for the penis. For each patient 4-8 g. of the drug was used, along with antifilarial drug (either herozen or hetrazan) for 3 weeks from the 1st postoperative day as a routine. It was our experience that whatever type of antibiotic or chemotherapeutic drug was used in filarial cases that drug alone was not sufficient to control the fever. Combination of an artifilarial drug with an antibiotic or a chemotherapeutic preparation gave prompt relief and there was quick recovery. There was uneventful recovery in all the cases studied.

In 2 cases of sterilisation vasectomy 1 g. of this antibiotic was used with primary wound healing.

Excision of superficial cysts and tumours was done in 11 cases (sebaceous cyst: 6; dermoid cyst: 3; fibrous: 2). 1·5 to 3 g. of the drug was used in each case. No postoperative complication was noticed.

THERAPEUTIC USE

The therapeutic use of kemicetine succinate is shown in Table 2. In the treatment of 13 cases of

TABLE 2—SHOWING THERAPEUTIC USE OF KEMICETINE SUCCINATE IN SURGICAL CASES

Disease	No. of cases	Dosage (systemic)	Local application	Remarks and result
Acute infection of genito-urinary system (pyelitis : 2, cystitis : 3, prostatitis : 1, epididymo-orchitis : 7)	13	2— 4 g.	—	Recovery perfect in all cases. Three developed diarrhoea
Abdominal cases (acute appendicitis : 7, appendicular abscess : 3, acute cholecystitis : 3, liver abscess : 2, gastric perforation : 2, peritonitis : 2)	19	6—10 g.	1—5 g.	Anti-amoebic drug given in liver abscess. One case of local application showed eczema. Result excellent
Chronic infective osteomyelitis	5	8—10 g.	1—1½ g.	Recovery satisfactory
Compound fracture	11	7—10 g.	1—2 g.	Control of infection excellent
Superficial infection (cellulitis, carbuncle and abscess)	21	4— 6 g.	—	Good result

acute infection of the genito-urinary system (pyelitis : 2 ; cystitis : 3 ; prostatitis : 1 and epididymo-orchitis : 7), two to four g. of the drug was used. In every case, the fever was rapidly controlled by intramuscular administration of the antibiotic in the early phase of the disease. In some cases injection was continued, whilst in others injection was replaced by oral administration. Effectiveness of oral therapy was as good as that of I.M. administration. Recovery was perfect in all cases. 3 cases developed diarrhoea.

In treating 19 abdominal cases (acute appendicitis : 7 ; appendicular abscess : 3 ; acute cholecystitis : 3 ; liver abscess : 2 ; gastric perforation : 2 ; and peritonitis : 2), 6-10 g. of the drug was administered parenterally. In some cases the drug was also used locally. Feverish manifestation was rapidly overcome by intravenous injection of chloramphenicol succinate 2 g. daily for 2 days in cholecystitis and peritonitis ; in the next phase the drug was given I.M. In 2 cases of gastric perforation the abdomen was opened after toiletting the abdomen, the perforation was closed and 2 g. of antibiotic was used locally—one g. was used around the site of perforation and another 1 g. was sprinkled on the abdominal wall at the time of suturing. Appendicular abscess cases were drained and through the drainage tube 1 g. of kemicetine succinate as 10 per cent solution was introduced daily for 3-5 days. In tropical liver abscess cases anti-amoebic drug was used concurrently with kemicetine succinate. In all cases the abscess was aspirated. In our abdominal cases, none of the patients required operation or re-operation for the persistence of peritonitic process. There was no death and no postoperative parietal suppuration was noticed. In one case eczematous symptoms were noticed in the region of the laparotomy incision.

Sequestrectomy was done in 5 cases of chronic infective osteomyelitis. One to 1½ g. of the antibiotic was sprinkled locally, and 8-10 g. was administered parenterally. Recovery was satisfactory.

In 11 cases of grossly contaminated compound fracture 1-2 g. was used locally in every case according to the extent of the wound. In all cases excision and debridement were needed. 7-10 g. of the antibiotic was used systematically. Control of local and general infection was excellent.

4 to 6 g. of the drug was used in 21 cases of superficial infection like cellulitis, carbuncles and abscess with good results. In all abscess cases drainage was done.

OBSERVATIONS

No pain, inflammation or any other discomfort at the site of injection was noticed. Seven cases developed mild to moderate postoperative fever. In 5 cases there was mild diarrhoea. One case showed eczematous symptoms on local application of the drug. No other toxic symptoms were noticed. Wounds in 2 cases healed by second intention.

Like other antibiotic powders (from capsule) kemicetine succinate also causes blood oozing from the cut surface when locally applied.

This antibiotic has a very wide range of prophylactic and therapeutic use in various surgical affections. Water solubility of this antibiotic has thrown open a large number of routes (intramuscular, intravenous, topical and endocavital) for its administration. In our opinion it is specially useful for various types of surgical affections, below the level of umbilicus up to toes. Tolerance to the drug was excellent. The drug is practically non-toxic.

Summary

Kemicetine succinate was used prophylactically in 152 cases and therapeutically in 69 cases. Out of a total of 221 case, 13 showed some side-effects in the form of temperature, diarrhoea and eczema. Results of treatment were excellent.

Antifilarial drug for elephantiasis of scrotum and penis and anti-amoebic drug for tropical liver abscess were used in association with kemicetine succinate. In no other case was such regime followed. The authors purposely avoided combination of antibiotics, or antibiotic and chemotherapeutic drugs, to assess the value of kemicetine succinate.

Acknowledgment

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MEDICAL EDUCATION

MEDICAL EDUCATION IN THE UNITED STATES OF AMERICA

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The author visited 29 medical schools and a number of research institutions in 14 states of U.S.A., and a number of schools in United Kingdom and Paris. He spent six months in the states, his special interest centring around medical education and recent developments in cancer research and tissue cultures. He also attended the Second World Medical Education Conference at Chicago. The Technical Co-operation Mission, International Co-operation Administration and the United States Public Health Service extended to him utmost courtesy and facilities. The itinerary was exceedingly well prepared. In his visits to the medical schools and university centres more time was spent in the department of pathology. He made it a point to visit all the basic science departments and the hospitals. He had opportunities for discussing on matters of administration, equipment, staff, etc., with the deans of the schools, directors of the hospitals and with the chairmen of the departments, and speaking to junior members of the staff and the students. In this way he gathered information and recorded the salient features of medical education. He had always kept in mind the conditions prevailing in India, so that a comparative study would enable him to offer recommendations for improvement of medical education. The data recorded in this paper are based on facts observed, or gathered from talks with medical educators, and information found in reports and books on medical education.

The care of the health of the people is the responsibility of the Government. Medical care on a national scale is very costly and takes up a good percentage of the national budget. The first requisite for planning public health measures is an adequate supply of doctors and paramedical personnel on a population basis. The Flexner Report had either weeded out the substandard medical schools in the U.S.A., or allowed several of them to merge with the better-run medical schools. There are now, 85 accredited schools instead of 180 which existed prior to the publication of the Flexner Report. This gives a ratio of one medical school for every 2 million of population. There are 53 medical schools in India, i.e., one school for every 7·5 million of population.

Table 1—Showing Some Comparative Data for U.S.A. and India

Country	Average expectancy of life (years)	Population (million)	No. of doctors on the register	No. of medical schools	Average annual admissions in each school	Total annual admissions	No. of medical graduates annually
U.S.A. ...	70—72	175	170,000	85 (1 for 2 million)	*85—100	7,651	**6,681
India ...	34	300	80,000	53 (1 for 7·5 million)	***60—100	3500—4000	2000—2800

* Tax supported schools admit 125, 150, 175 or even 200 students annually.
** In the Second Year the student strength is 7,161; in the third year 7,000 and in the fourth year 6,888.
*** Some schools admit 125 students.

TABLE 2—SHOWING COMPARATIVE DATA ON MEDICAL EDUCATION IN U.S.A. AND INDIA

Country	Anticipated population in 1970 (million)	No of schools by 1970	Per capita family income	Percentage of tax-supported medical schools	Annual budget (million)		
					School	Hospital	Research in school & hospital
U.S.A. ...	250	99	$5,000	50	$3-4	$8-12	$3-12
India ...	480	80	$ 500*	90	$0·2	$0·5	$0 to 4000

* Most of the families live on annual income of $100 to $300.

TABLE 3—SHOWING COMPARATIVE DATA ON MEDICAL EDUCATION IN U.S.A. AND INDIA

Country	Schools administered by	Sources of research grants
U.S.A. ...	Universities	National Institute of Health, Federal Grants, Foundations like Polio, Heart, American Cancer Society, etc. Pharmacentical firms also make generous contributions
India ...	Government, except 2 colleges by Universities of Baroda and Lucknow, 3 by Christian Missions and 5 under private management	Indian Council of Medical Research, State Government Research Grants, Tata Memorial Research Grants and Pharmaceutical firms to a very limited extent.

MEDICAL STUDENTS

In the Freshman class medical students are usually between 21 to 23 years of age. 70 to 75 per cent of freshmen have had 4 years of college education and possess A.B. or other degree in arts. Some of them hold master's degree in science or psychology. A few schools admit students with three years of college education. These comprise about 20 per cent of the students. Brandeiss University is contemplating starting Liberal Arts-Medicine course. This is to last six years, and students will have to learn science subjects, psychology, statistics, literature etc. in the first two years, and the remaining four years are to be devoted to a study of medicine. During the last four years philosophy, psychology and humanities are also intended to be taught. This is expected to turn out better type of doctors with emphasis on liberal and broad-based general education.

ADMISSION TO MEDICAL SCHOOLS

Candidates for admission to medical schools appear in May and November of each year for medical college admission test, for which a nominal examination fee is charged. This test is conducted by a private body and is held at different centres throughout the States. A candidate has to indicate to the Board the name of the school or schools to which he desires his marks sheet to be sent. The test evaluates competency of the candidates in English, sciences, general knowledge, and aptitude. The candidates in addition submit an application to the school to which admission is sought. References are made to their teachers, and great consideration is given to the remarks made by the teachers. The Dean of each medical school nominates an Admission Committee, which is independent, and decisions made by the Committee are unalterable. No one can influence the Committee, although pressure at different levels are brought on them. The members are usually selected from the professorial cadre and chosen because they like the work and are known to take keen interest in it and make an excellent job of it. They are above suspicion.

The Admission Committee scrutinises the applications and selects the academically brilliant candidates without an interview. Those considered below average are rejected, and the border line cases are invited for an interview. The interview is meant to evaluate the aptitude of the candidate. Extreme courtesy is extended to the candidate during the interview, and usually he does not feel the strain of an interview. In case the candidate has to make a long journey for the interview, he is called by the Dean or a Member of the medical school nearest to his place of residence for interview and admission is based on the report received. Intimation for admission to medical school is sent a year in advance. On an average each candidate applies to three medical schools and there seems to be not much of difficulty to gain admission, at any rate into some medical schools.

There is a feeling that in recent years the best students are entering physics, chemistry, aeronautics, engineering and other fields of science, and are not attracted to medicine. Yet the craze and glamour to become a doctor are not altogether extinct, for medicine continues to offer a comfortable living and is the most respected profession in the United States. Private schools like Harvard, Johns Hopkins, New Haven, Washington, Chicago and other university medical schools attract the best talents, and most of the students graduating from these schools take to teaching, research or specialisation in medicine. The tax-supported schools find it difficult to get brilliant students, for admissions are restricted to students within the State, and sometimes representation is given to counties within each State. 5 to 10 per cent of the admissions in the tax-supported schools are offered to students belonging to other States, and usually to those in the neighbourhood and to places where no medical school exists.

Students at the time of entry into medical schools are of mature mind, realise their responsibility, pursue their studies as graduate students (like postgraduates in our country) and manifest utmost interest in learning. No attendance is taken in the classes and yet no one absents from the class. This is true of elective courses too where attendance is not compulsory. Students are seen dissecting late in the evening and some of them spending their time with animal experiments. This was in New Haven Yale University School of Medicine. In the practical class students participate in group discussions and for this the students prepare their lessons well at home and many of them obtain latest information from the journals. They are considered as junior colleagues in the learning process. On interrogating students on several aspects of school life some students of the Harvard Medical School told me that they liked their school best because their teachers encouraged them to take to research during their studies and that they loved to spend their time in the library to find solutions to their doubts or problems. Many students have been seen busy with animal experimentation—like inducing vitamin or nutritional deficiency conditions. Each chairman of the department is given a photograph of the students of the class and accurate records of students' progress are maintained. There is greater contact for the student with the teachers in U.S.A. than in Indian colleges.

Lady students form 5·3 per cent of the total admissions. Medicine is viewed upon as a course not suited to women, primarily because of the long duration and tedious nature of the course, and secondly because the prospects of obtaining better positions are great, and the chances of matrimony for the middle class girls are far better than in our country. The right type of woman does not apply for admission to a medical school, although there is no restriction whatsoever for her admission.

Students are not very keen in participating in the association activities and in many schools these activities do not exist. Although there is provision for games and sports very few participate. But they as members of fraternity clubs.

Tuition Fees and Student Costs

The tuition fees are $900 to 1,100 in private schools and $350 to 500 annually in tax-supported schools. This is exclusive of the amount spent for books and providing students with optical instruments like microscope, ophthalmoscope, etc.

Lodging is usually provided at a nominal rent of $300 annually. The 'Residence Halls' are separate for bachelor and married students. These quarters are comfortable and every amenity is provided. Food is purchased from the cafeteria, and in some of them the cost of the food is subsidised. The students buy their food in the hospital cafeteria also. This costs about $1,000 annually. In the freshman year 30 per cent of the students are married, and this goes up to 60 per cent by the third year. The students are parents of 2 or more children by the third year of studies. The wives of the students are employed as secretaries in the office of the Dean or Chairman of the departments in the school. They are of considerable financial assistance in addition to contributing good influence on the students' attitude.

Student Fellowships

10 per cent of the students secure fellowship and this covers their tuition fees. Many take up part time employment. They work in clinical laboratory over the week and/or on night duty and a lady student told me that she works as telephone switch board operator during the week-ends.

Students Loans

About 10 per cent of the students take advantage of private sponsored loans which are free of interest. They are repayable from the time the candidate begins to earn as a doctor. Government also offer loans to those who intend to practice in the state or the country side.

Examinations and Promotions

Importance is given to class work and class examinations. Periodical quiz, examination in

practical and theory are conducted. The university examination is conducted by the faculty and there are no external examiners. The results are first approved by the chairman of the department concerned and later by the dean of the school. Generally in the freshman and sophomore years there is about 5 per cent attrition and in the third and final years 100 per cent qualify at the examination. The pass marks in many schools are 70 to 75 per cent, but the range adopted is Grade A: 90-100, B: 80-89, C: 75-79, D: 60-74, E: below 60 (failed).

State and National Board Examinations

In Yale University Medical School there is no university examination. The student has to submit a thesis on any subject under the guidance of a staff member and credit in this thesis entitles him for the degree of Doctor of Medicine. It is compulsory for every student to qualify for the State and National Board Examinations to licence him to practise.

Students' Guidance Council

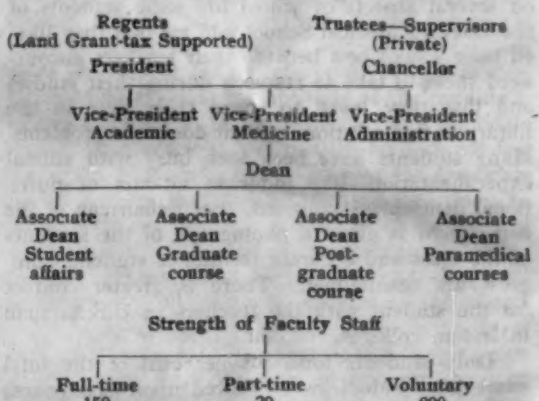
The four chairmen of the departments are nominated by the dean to this council. They often keep watch over the progress of the tardy student. Such students are met by the members of the council who offer advice with a view to improve them and make every effort to remedy or rectify defects in the students. If correction is not possible the student is advised to leave the school and the dean is informed of the same. Sometimes an alternative career is suggested to the candidate.

Students' Research Activities

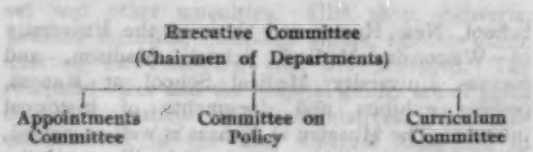
The medical students constitute one of the largest sources untapped for medical research and so attempt is made to introduce the techniques of basic research through grants in free quarter periods. The Federal Government offer grants by way of short term research grants. These are styled as summer fellowship and lasts for 10 weeks. The research student is paid $500 for the period. He works on some topic under the guidance of a staff member and the investigation is ordinarily completed within that period. The students thus get interested in research and a good number of them later join on the staff of the non-clinical departments. On the advice of the senior teacher, either after completion of the freshman or sophomore class the student drops out for a year or two and pursues a research project that would lead him to take the Ph.D. At times the bright student is deputed to Oxford, Cambridge, Zurich, Germany, or France to work under some eminent doctor and such scholarships are sponsored by some International foundation. On completion of the work the student rejoins the medical course. The writer has seen students from Harvard Medical School spending summer months at the Mayo Clinic, Rochester watching operations on the heart. Some of the faculty members encourage the students to participate in the departmental research schemes during the leisure hours and on holidays. This brings the student closer to the teacher and affords an invaluable opportunity to develop a taste for research in basic medical sciences during the formative period of his life.

Staff

The medical schools are administered by the universities. Universities may be private, land grant or tax supported. The tax supported university medical schools receive $3000 annually per student as grant-in-aid. The general policy of administration of medical school is outlined by the president of the university solely on the advice of the dean and the faculty of the medical school. The dean carries out the day to day administration largely assisted by the chairman of the faculty. Flexner Report and the report entitled "Medical Schools in the Midcentury" are responsible for the drastic changes in medical schools set up in U.S.A. The Council on Medical Education of American Medical Association and the Association of American Medical Colleges exercise supervisory and advisory role over the medical schools. The authority to accredit medical schools is vested with them. The trend all over the States is to establish full-time faculty in medical schools. According to some eminent medical educators here the reputation of a medical school is largely dependent upon the pre-clinical departments and every effort is made to strengthen them.



Note—Staff strength is variable in each category in each school.



The junior staff are employed on temporary basis and in many institutions they are renewable annually. This keeps the junior member of the staff to work hard in order to obtain more secure positions. The professorial staff are appointed on tenure basis. The faculty appointments committee are constantly on the look out for filling in the vacancies by suitable persons, and the decision often is based on the interests, devotion to duty and master of the subject rather on the qualifications. Sometimes the prospective candidate is interviewed just to know his interest of the work and of the job. The offer of appointment is made and no post is advertised. In most schools the chairmen of the departments belong to the age group 35 and upwards. There is a tendency to the appointment of young men to the posts of dean, since the work of dean has increased enormously in recent years. Once appointed the dean holds the post till the time of retirement. He is the policy maker and care-taker of the school with real authority. Age of retirement is 67 years. The dean is a strong and dynamic personality. The faculty appointments committee is also vested with the powers of selection of the dean and the recommendation of this committee is invariably approved by the president of the university. Slight variations exist in the rules governing these between the private and tax-supported university medical schools. In some of the private university medical schools the dean's post is held by the senior faculty member in rotation and the person being elected to the post by the faculty. In many places the dean has absolute control over academic matters of the school and affiliated hospitals. In some places the vice-president is the co-ordinating officer between the school and the hospital and exercises over-all supervision. The schools enjoy large contingent of staff and the strength of the staff is 120 to 150 in medicine and other departments. In some of the private university medical schools they are employed on full-time basis. Associate and assistant professors with considerable experience share to a large extent the routine work of the department with the chairmen. About 30 to 50 per cent of the time is devoted to teaching and administration and the rest of the time is utilised for research.

There is an effort made to improve the salaries of the medical teachers and research workers and also a general feeling for the creation of full-time units. Salary scales vary from school to school but much discontentment is not expressed.

TABLE 4—SHOWING SALARIES OF MEDICAL TEACHERS AND RESEARCH WORKERS

Designation	Annual salary ($)
Professor	15 to 25,000
Assistant Professor	12 to 15,000
Instructor	8 to 10,000
Research Associate Fellow	5 to 8,000

About 25 per cent of the teaching posts in the medical schools are financed by research grants. Specialists in internal medicine offer themselves for research posts as they enjoy freedom to think, devoid of patient care and could obtain equipment and personnel without trouble for the research projects. In addition they could live in reasonable comfort and there is not much disparity in the income between him and his clinical colleague.

MEDICAL SCHOOLS

In most places the medical schools are located within the premises of the university. This is largely responsible for the prevailing academic atmosphere in American medical schools. In some places as in the University of Chicago, medicine comes under the "Biological Division" of the University. Physical facilities are provided at great cost. Most of the sections of the schools are air-conditioned. Each section has adequate equipment and staff for teaching and research. In some schools refrigerating chambers run through all the floors and distilled water pipes are similarly provided. There is usually an University Stores where anything can be purchased. Students' amenities are liberally catered to (lockers, water coolers, lounges, cafeteria, etc.). The chairman of the department is in-charge of operating the budget of the department and is only answerable to the dean. He and his staff enjoy the services of a secretary who ordinarily has had a course in business administration. The chairman of the department procures all the stationery required and this contributes to a great deal for the efficiency in administration. Dictaphone, tape-recorder, I.B.M. index card system, etc., help in the efficiency of maintaining records. The animal rooms are adjacent to or within each department. This adds to the convenience of the staff for experimental work. Duplication of equipment is seen and there is large supply of electronic equipment. Some schools have three or four electron microscopes.

MACHINE WORKSHOP :

There are machine shops in the medical schools, hospitals and research institutions. This is of invaluable assistance to the institution. The staff employed in the workshop not only carry out repair of instruments but are competent to devise an instrument or modify an existing one to suit the needs of a particular research project. The electronic equipment used in the laboratories require constant attention of skilled physicists. The machine workshop saves money and time. Every medical school and teaching hospital in our country should have the services of a machine workshop which should form one of the sections of these institutions.

University Unions

In Ann Arber, Madison, Laurence and Chicago the University Union Buildings provide recreational facilities for indoor games, including swimming. There is a cafeteria and a library. There is also dance hall and auditorium and cinema theatre. Most of the students gather in the evenings here and spend their time profitably.

Library

Medical libraries in United States are most impressive. They are well kept and well organised. Professor of Library Science or a well qualified person is in charge of it. Some of the libraries have one or two million volumes. Good number of books upto 50,000 are annually added and from 900 to 6,000 periodicals are subscribed in a year. There is an excellent index system. Medical Librarian course exists. Medical Librarian Association of U.S.A. and Canada safeguards the interests and standard of medical librarians. The librarian sends a card to the chairman of the departments whenever new books are released from the press and ascertains whether they would like to have it for the library. Film reading, bibliography and extract services are available. The students and the staff make use of the library. Usually three copies of the journals are procured. The alumni gift books and back number of journals to the schools are obtained. Periodically the librarians discard duplicate copies of books and back numbers of journals and they are happy to make gifts of them to schools who want them. The National Library of Medicine, Washington is the largest medical library in the world and has 2 million volumes.

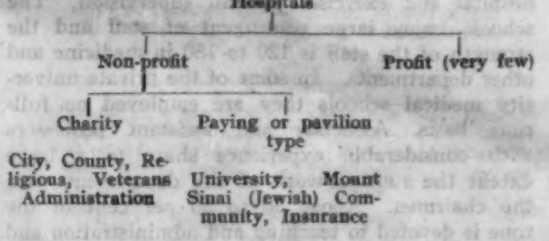
History of Medicine—Welch History of Medicine Museum at Johns Hopkins University Medical School, Baltimore, Harvey Cushing History of Medicine Museum at Yale University Medical School, New Haven and those at the University of Wisconsin Medical School, Madison, and Kansas University Medical School at Kansas, possess exhibits and documents of historical interest. The Museum at Kansas is well-organised. All these museums form part of the library in the respective schools.

Photo-Art-Illustration Department

Facilities for taking gross specimen photographs, clinical photographs, photomicrographs, cinematograph, television, etc., are made available either to each department or are centralised. Kodochrome slides are used for teaching purposes and in some places the kodochrome library contains nearly 10,000 slides. These have replaced morbid anatomical specimen museums. The museums are neglected and no specimen is mounted. The Photo-Art-Illustration department is remarkably well developed in the University School of Michigan and University of Illinois College of Medicine. The department in these centres is in charge of a Professor of Art-Illustration. Degree Course in Photo-Art-Illustration is offered at the University of Illinosis College of Medicine.

Hospitals

The costs of medical care in the United States is largely met through the insurance scheme. The Blue Shield and Blue Cross cover 70 per cent of patient care. Most of the hospitals are affiliated to medical schools in the locality. In almost all these hospitals residency programmes for one or more specialities exist. The bed strength of the hospitals vary from 100 to 3,500. Cook County at Chicago, Philadelphia General, and King's County Hospitals, New York have the maximum bed strength. Most of the hospitals are maintained on non-profit basis. Those run no profit basis are negligibly small in number.



Some of the big hospitals are like townships. They are very spacious and are of 20 to 25 floors. There are single, twin, 4, 8, 16 etc.-beds wards and they are provided with telephone, television

set and other amenities. Gift shop, cafeteria, banking facilities, insurance offices, railway office, quarters for residents, etc., are provided. The reception office and the hospital guides are of great help to the patients and their relatives. The clinical material in the City General Hospitals in Boston, New York and Chicago are shared by all the medical schools in these cities.

The non-bed space in the teaching hospitals is about 50 to 60 per cent of the total hospital space. The offices and diagnostic services of all the specialities are provided with adequate accommodation. The clinical laboratories, radiology, anaesthesia, neuropsychiatry, etc., departments are not only well organised but cover considerable space of any teaching hospital. In many places infectious and tuberculous diseases hospitals have been closed, and these buildings are now utilised for research or diagnostic laboratories. Patients are rarely seen in their homes. They prefer and always attend the hospitals where every facility is provided. The hospitals are most comfortable and are well-maintained. The daily per capita cost for patient care ranges between $ 21 and 28.

The operation theatres are well planned and enjoy the services of frozen section. The frozen section cubicle is located close to the operation theatre and a senior resident in pathology is in charge of it. The visitors' gallery in the operation theatres is usually screened by glass pane. Strict aseptic precautions are enforced on the visitors, inclusive of students, because antibiotic-resistant staphylococcal contamination is dreaded. The resuscitation or post-operative ward is adjacent to the operation theatre. This has efficient nursing staff, resident surgeon, anaesthetist, oxygen, and carbon dioxide pipes (in hospitals oxygen pipes are provided in the wards), blood pressure apparatus is fixed to each bed, and all the sanitary equipment is fixed close to each bed. Utmost care is exercised over the patients. This is an essential requisite of any hospital. Blood bank is located close to the operation theatres and is very well organised. The blood bank is under the control of the Director of Clinical Laboratories. There is no dearth for blood. Each pint of blood costs $ 10 to 20 and is sold for $ 22 to 28. Many of the students offer themselves as donors. Hospitals have central sterilisation section. The surgical dressings, etc., are attended to here. The soiled dressings are gathered through a pigeon hole outlet in the wall of the operation theatre and collected at the other end by an attendant and trollied to the sterilisation centre. Absolute cleanliness is enforced in the hospital and specially in the operation theatres. All intravenous transfusion fluids are sterilised at these centres.

Hospital records—The hospital records are well maintained. Each patient's clinical and other data form a book by itself. These are indexed. Biopsy, laboratory and autopsy reports are prepared in quadruplicate and distributed to the concerned sections. The hospital records section is a big organisation with adequate number of stenotypists, statisticians, etc., and they are provided with I.B.M. rotating type of sorting devices and dictaphones. Utmost attention is paid to the proper indexing of the hospital records. Particulars of any patient could be obtained at a moment's notice.

Neuropsychiatry hospitals—There is a growing concern regarding the alarmingly high incidence of neuropsychiatric disorders. Juvenile delinquency continues to be on the rise. 5 beds are allotted for every 1,000 citizens in the States for the care of these patients. Neuropsychiatry hospitals accommodate from 600 to 4,000 patients. There are 201 state mental hospitals, 500 psychiatric clinics and a fine research centre at Bethesda, the "National Institute of Mental Health". 420,000 beds available for psychiatric patients are deficient by 320,000 beds.

City general hospitals—These are charity hospitals and are financed and administered by the city health commissioner under the directions of the mayor. They are well equipped and are often affiliated to medical schools. The lower income groups form the bulk of the patients to these hospitals.

County hospitals—These closely resemble the city general hospitals and are much smaller in size.

Community hospitals—This serves a small community of about 20,000 population. The hospital is built by the subscription raised from the community. Every amenity is provided. The staff are well-qualified. These hospitals are maintained by the charges collected from patients attending the hospitals.

Insurance hospitals—Some of the most modern and best hospitals in recent years are maintained by insurance corporations.

Veterans administration hospitals—These are financed and administered by the Federal Government. They are located in the proximity of medical schools and are affiliated to the medical schools. They have an active residency programme. They are well equipped and liberally staffed. Research laboratories in these hospitals are adequately staffed and equipped. Majority of them have a bed strength of 350, some have 500 and a few have 1,000 beds.

University hospitals—Some of the Universities like Chicago, Minneapolis, Michigan, etc., maintain

teaching hospitals. These are of 1,000 beds. They are self-supporting and revenues of the hospitals received from the patients are said to be adequate. Majority of the patients attending these hospitals pay for their care.

Hospital administration—The private and university hospitals are governed by a trustee board, which is often advised by a small faculty committee. In some places a full-time medical director is in charge of administration. Vice-president exercises control over him. Supervisors, three or four number, assist the medical director. The director is subordinate to the dean of the school in academic matters. Non-medical hospital administrators are either in independent charge of the hospitals or are subordinate to the medical director. Prospective candidates for the post of medical director undergo a course of training in hospital administration The course in hospital administration is for 2 years, one year of which is spent as a resident in the hospital. Many hospitals have the services of public relations officer. It is the constant endeavour of the staff of this office to maintain cordial relationship with the visitors and patients and they are entrusted with the publicity work of the hospital. The staff usually bring out a quarterly magazine (Johns Hopkins University Hospital, Chicago University Hospital, etc.) where the activities of the hospital and medical school are briefly reviewed with plenty of illustrations.

Course and Curriculum

The degree of Doctor of Medicine is awarded on satisfactory completion of four years course in medicine. The curriculum is subject to frequent experimentation and differs from school to school. This is based on the belief that physicians can be trained in many ways. These experiments are financed by foundations. In general the curriculum is broad-based and the block system is adopted.

The freshman year is devoted to the study of anatomy, physiology and biochemistry. In some schools during the first six months anatomy alone is taught and during the last six months instruction in physiology and biochemistry is given. In some schools all the three subjects are taught concurrently. Histology is taught along with anatomy. Too much time is not spent in the learning of morphologic anatomy. Great stress and time are devoted to the learning of histology, histochemistry, cytochemistry, and neuro-anatomy, Electron microscope finds a place in each of the anatomy departments and students are familiar with electron micrography. Extensive fundamental research on cell and cell biology is carried out in the anatomy department. The students evince keen interest in the learning of minute cell structure. Tissue culture work finds a place in anatomy.

There is an attempt at correlation in the teaching of physiology, anatomy and biochemistry in some schools. Human experiments and allied biochemical tests are popular. An attempt is made to restrict the number of students in each laboratory. These laboratories take 4, 8 or more students. They are well equipped for performing experiments and the students are guided by an instructor. They are encouraged and drawn into discussion and quiz is employed to test the acquaintance of the students with the subject and histological slides. The students invariably come well prepared for the class. I have seen at Harvard Medical School students carrying out experiments to demonstrate movements of intestine and the absorption of food material. All renal efficiency tests, hepatic function tests and some of the cardiopulmonary circulation tests are performed by the students on themselves.

Sophomore class—During the second year pathology, microbiology and pharmacology are taught. The students do not visit wards during this period. An attempt is made through clinicopathological conferences and group discussions for correlation of pathology and microbiology teaching with clinical material. The clinicians are requested to give succinct talks on rheumatic fever, nephritis, etc., at the time streptococcus is being taught. General and surgical pathology are covered. Obstetric and gynaecology is taught during the clinical years. Attendance at autopsy is compulsory and gross specimen conferences are popular and are of stimulating influence to the students. Handling of stock morbid anatomical specimens and study of morbid histological slides are insisted upon. Each student is provided with 200 to 300 slides. In addition to these he participates in the clinicopathological conferences and is either demonstrated a few selected experiments in pathology to illustrate some disease processes or undertakes by himself experiments under the guidance of the staff members. Course in microbiology covers laboratory exercises of organismal identification, animal inoculations, serological work and seminar discussions where the physician and the paediatrician participate.

The junior and senior clinical years (two years) are exclusively spent in the wards. Great emphasis is given in the learning of paediatrics, which is accorded the status of major speciality. Neurology and neuropsychiatry are given due recognition. During the two clinical years the students show active interest and work as junior colleagues in the wards.

Teaching in the United States is "Student Centred" and as far as possible the students are divided into small groups for instruction, and students are free to discuss and learn by themselves through reference to journals and books in the library. In Kansas a laboratory for 4 students is being designed. The students realise their responsibility and make the best use of the opportunities available for them.

Methods of teaching—The following are the methods employed in teaching:

1. Lectures, illustrated profusely with kodochrome slides.
2. Practicals, with the use of stock specimens (400 specimens of each disease and 1500 slide boxes with 100 slides in each).
3. Animal experiments.
4. Films: Dynamics of tubercle bacillus, hypersensitive states, nephritis, etc.
5. Television.
6. Clinicopathological conference.
7. Group discussions.
8. Assignment of work and the use of library service.
9. Quiz.
10. Attendance at staff meetings.

In general no care is taken to maintain museums, which are generally neglected here. It is believed that the care and cost of maintaining them do not compensate their utility, and kodochrome slide library has taken their place.

Teaching conference—Once a year or once in two years teaching conference is held at one of the medical schools, primarily to evaluate and critically review the value of methods employed in teaching. Senior members of the medical staff are invited to speak or demonstrate the latest methods adopted in teaching medical students and the exact utility of the same. Junior teachers from several schools are encouraged to attend the conference. These conferences are financially supported by some foundation or other. Travelling and daily allowances of those deputed are met from the grants so obtained. The writer attended pathology teaching conference held at the Western Reserve University Medical School and the frank discussions that took place regarding the methods of teaching suggested by many impressed me the remarkable usefulness of the same. These conferences encourage to plan different approaches to project the subject matter to the students.

On successful completion of the course in a particular subject students are requested to record their candid views and recommendations on the benefits or otherwise derived through the course, and suggestions are invited on the lines teaching could be improved. The student is not expected to disclose his identity while filling in the proforma. The students do not appear to be greatly benefited through animal experiments.

Integrated teaching—In some schools the word 'integrated teaching' is mentioned frequently, and the staff talk nothing but their achievements in having effectively brought about integration in teaching preclinical and clinical subjects. In many schools the staff express pessimistically on the so-called achievements of integrated or correlated teaching and style it as "fancy" or "fashion". The experiment is very prohibitive in its cost. The genesis for integrated teaching appears to be due to the employment of a large number of non-medical Ph.D. on the staff of the medical schools in recent years.

TABLE 8—SHOWING PERCENTAGE OF NON-MEDICAL STAFF EMPLOYED IN NON-CLINICAL SUBJECTS

Subject	Anatomy	Physiology	Biochemistry	Microbiology	Pathology	Biophysics
Percentage of non-medical Ph.D. staff employed	47	61	89	63	3	47

Integrated teaching was first started at the Harvard Medical School. The teaching of anatomy, physiology and biochemistry is well integrated, and the student obtains correlative vision of the three subjects during the study of any one organ. He gets this comprehensive idea in the laboratory while performing the practical exercises. In the second half of teaching of pathology integration with clinical disciplines are brought in. In a more intensified manner the Western Reserve method styled as the "Curricular Revolution" is in the forefront, and many teachers from all over the world make pilgrimage to study the methods employed in integrated teaching. Students with academic distinctions join the Western Reserve University Medical School. This curricular experiment is financed heavily by the foundation. Dean Wearn chose relatively young men as Chairmen of the departments and with their co-operation, and in particular of Drs. Ham and Coughey, the scheme has been put into practice since 1952. This involves tremendous organisation and co-operation of the staff.

The subjects committee draw up the time table and usually junior members of the staff are nominated to the committee. The course is broadly divided into Phase I and Phase II and clinical

course. The students in the freshman year are acquainted with the anatomy of the foetus and this is followed by study of tissues and then study of individual organs—their morphology, functions and biochemical reactions—all as one course. The practicals are conducted in Phase I laboratory where the work benches are designed to carry out anatomical dissections, physiological experiments and biochemical tests. Equipment and reagents are in charge of one specially appointed for the purpose. This appears to be economical and of highly instructional value. On completion of course in general pathology a seminar type of teaching in systemic pathology, microbiology, and pharmacology is done with the co-operation of clinical colleagues who actively participate. This course lasts for 18 months. The clinical course is only for 18 months. In order to give the idea of the social, economic and cultural background of the patients, the student in the first year is introduced to a family, where he is the adviser and guardian to the family and the newly born child in all medical matters.

This practice cannot be adopted *in toto* in India for several reasons, but some of it could be included profitably. The entire curriculum and programme is sold at $25 and they are available at the Guntur Medical College Library for reference.

Higher Education in Medicine

There are (1) graduate course, (2) internship, (3) resident, and (4) continuation study.

Graduate Course—Soon after the second world war difficulty was experienced in enlisting teachers for pre-clinical subjects. Harvard Medical School has the credit for starting a graduate course. The scheme was financed by a foundation. Graduates were admitted to this course. This is now a feature in several of the medical schools in the United States. During the freshman year an integrated course in anatomy, physiology, biochemistry, microbiology and pathology covers the essentials of basic medical sciences. In the second year the candidate chooses to specialise in one of the basic medical sciences, except pathology, under the guidance of the professor concerned. The period of study is 3 to 4 years and at the end of this course the candidate obtains the Ph.D. degree. The Federal Government makes generous grants for those pursuing graduate course under the scheme "Pre-doctoral Fellowships". The candidates are usually paid $1,800 to 2,000 a year. They are employed as teachers and research workers in medical schools. They are now indispensable in research and many of them have made significant contributions to anatomy, biochemistry and microbiology. Many medical educators welcome them as teachers in basic medical sciences while an equal number strongly oppose this view and emphasise the need for enlisting medical graduates to take to teaching of basic medical sciences.

Internship—Internship is part of the education of a physician and is designed to provide the graduate initial contact with the patients, including responsibility for their care. 15 per cent of the hospitals (12325) in the United States are approved for training of interns. An approved internship may not be less than 12 months. Longer internship up to 24 months is still offered, although the extra 12 months period is counted towards residency. Internship is that phase of medical education and training which follows immediately upon the completion of the four-year undergraduate medical education. It consists of supervised practice of medicine among patients in a hospital and in outpatients department, with continued instruction in the science and art of medicine by the hospital staff. Approved internships may be 'rotating', 'mixed', or 'straight'. A 'rotating' internship is one which provides supervised practice in the four major divisions of internal medicine—medicine, paediatrics, obstetrics, and surgery. In India instead of paediatrics, training in social and preventive medicine at a rural health centre, is given. Training in laboratory diagnosis and radiological interpretation is also included. A 'mixed' internship is one in which at least half of the total time is spent in one of the major specialities with additional experience on one or more, but not all the other major clinical divisions. A 'straight' internship is one which provides experience on a single service, although one or more related sub-specialities may be included.

15 to 25 patients are entrusted to the care of an intern. In recognising hospitals for internship, the size of the hospital, the qualifications and experience of the staff, the accurate maintenance of medical records, laboratory and radiology services, library facilities, etc., are taken into consideration. The staff of the hospitals realise that internship is an educational experience and accept their share of responsibility for its conduct. The intern committee formed by the interested departmental representatives assumes responsibility for the organisation, supervision, and evaluation of the plan of intern instruction. The training programme includes attendance and participation in departmental, clinicopathological, radiological, journal club, etc., conferences in addition to patient care. The director of intern committee is the executive authority.

The intern provides the hospital with certain services in return for the experience he gains. The intern is paid a reasonable stipend which is considered as scholarship for graduate study. This is a widely accepted practice in the United States. The hospital provides intern staff with living quarters and recreational facilities, and also accepts the responsibility for the health of the intern. Every intern is given a physical check-up, laboratory tests and chest x-ray at the time of his enlistment and periodically thereafter.

Residency programme—Intern and residency training are the two graduate programmes open to the medical graduates. Residency programme, originally started with specialisation in ophthalmology, now covers training in 26 specialities, all of which are recognised by the Council on Medical Education and Hospitals of the American Medical Association. The American Board of specialities exercises supervision and organisation control. They are (1) anaesthesiology, (2) dermatology, (3) general practice, (4) genereal surgery and (5) internal medicine: allergy, cardiovascular diseases, gastroenterology, pulmonary diseases, (6) neurological surgery, (7) neurology, (8) obstetrics and gynaecology, (9) ophthalmology, (10) orthopaedic surgery, (11) otolaryngology, (12) pathology, (13) paediatrics, (14) physical medicine and rehabilitation, (15) plastic surgery, (16) preventive medicine; aviation medicine, occupational medicine, public health, (17) proctology, (18) psychiatry and neurology, (19) radiology, (20) thoracic surgery, (21) urology.

The period of residency programme lasts from 2 to 4 years. In the first year of training 12,939 were registered and in the final year or 4th year 30,595 were on the rolls of 1,248 hospitals in 1959. The largest number enlisted was for surgery (5,924) and next in the order of preference was internal medicine (5,401).

During the four year period of training the resident has increasing responsibility with decreasing degree of supervision of patient care. It appears that the resident is a trusted adjutant of the senior clinician and learns every detail through a system of well-organised apprenticeship. The training is aimed at giving practical instruction with minimum of theorisation. The resident resides within the hospital compound and attends to all emergencies. He is paid sufficiently to meet his board and lodging. Every resident is encouraged to work on a research project during the senior years of training.

The hospitals recognised for residency training programme provide radiological and pathological services, a well equipped library and a team of qualified staff. Attendance at clinicopathological, clinical, and journal club conferences are compulsory. The residents participate in these conferences. They also attend symposia and seminars specially arranged for their benefit. The boards conduct the examinations in theory and *viva voce*. In the theory examination objective type of multiple choice questions are set. The results are tabulated by the I.B.M. In general the resident at the time of qualifying has gained confidence in the practice of the speciality independently and is thoroughly reliable. He attains the standard of a junior consultant, and is eligible for the post of assistant professor, to start with.

The Educational Council for Foreign Medical Graduates

This was established in 1957 for the purpose of evaluating the foreign medical graduates who wish to avail themselves of the benefits of residency programme. Since residents are entrusted with patient care, an entrance examination is conducted by this council annually in different countries, to test the candidates' knowledge of medicine and the English language. Unless one demonstrates satisfactory knowledge in both, he is not admitted into the residency training programme. Many of the foreign medical graduates are not aware of this. The Indian medical graduates should not find the qualifying examination difficult.

Continuation Study

The Government, the American Medical Association and the Association of American Medical Colleges are convinced that the continued education of the physician, during the years he is actively engaged in practice of the art of medicine or the allied sciences, is very essential. Courses are organised by county medical associations, the speciality associations at the time of the annual meetings, the American Medical Association and by the medical schools as part of postgraduate medical education. These courses cater to the needs of the general practitioner, specialist and also the resident preparing for the American Board of Specialists Examination. In 1958, 20,432 doctors enrolled for 695 postgraduate courses in the United States. They usually travel from 50 to 300 miles to attend the postgraduate courses. I had seen these courses extremely well organised at: 1. Minneapolis Continuation Study Centre; 2. Cook County Postgraduate School of Medicine, Chicago; 3. Department of Postgraduate Medical Education, University of Kansas School of Medicine.

The post-graduate centres are administered by associate deans. At the Minneapolis Centre there

is an excellent building where lodging and board facilities are provided to the doctors in addition to conference and lecture rooms and library. The courses are conducted during summer at this centre.

The Cook County Centre announces postgraduate course well in advance and each one of them lasts about a fortnight and $150 is the fee charged. The divisions of urology and cystoscopy, paediatrics, radiology, internal medicine, gynaecology, fractures and traumatic surgery, general surgery etc., organise elaborate courses. The instruction aims at theory and practice of the speciality in the light of recent advances. A novel feature of this centre is that training is given in experimental surgery. The experimental surgery laboratory is equipped to offer instruction for 24 doctors at a time.

The Continuation Study Centre at Kansas impressed me most. This is one of the departments of the Kansas University School of Medicine and 38 co-sponsoring agencies subscribe to the success of the programme. The Associate Dean is assisted by a non-medical Executive Director, Fieldman and Secretary. The Fieldman is in-charge of the mailing division. The division on fiscal matters and operational matters are managed by the Executive Director. The division on educational policy covering curriculum, faculty, programmes, teaching methods on clinical traineeship and basic science re-indoctrination, etc., are supervised by the Associate Dean. The Chairman of the speciality departments are consulted periodically and they participate in the programmes without extra remuneration and this assignment is included in the contract of appointment. The synopsis, or detailed account of the course in each speciality is supplied by the participant lecturer, and this is printed in the form of a monograph and supplied to the participants much in advance. The fees collected cover 80 per cent of the expenditure. Distinguished guest instructors are paid their travel costs and $ 100 as honorarium. Full-time staff members of the medical schools do not receive the honorarium. A course in teaching methods and their evaluation is also given.

$ 15 are charged per day for the course. The course may last from 1 to 2 weeks. The programmes are released about 6 months in advance. The courses are in the form of symposia on special subjects, clinical conferences and lectures. The subjects range from infectious diseases to glaucoma. Men of international repute from Canada, Europe, and Britain addressed the Centre in recent times. Courses in special laboratory techniques are also conducted. Histochemistry is one such subject. Courses on allied health subjects are also conducted. They are psychological and sociological methods for improving patient care, nursing of children, technics of physical rehabilitation, cardiovascular nursing, x-ray technology, nursing service administration, medical technology, hearing and speech, mental health in nursing, etc.

The post-graduate courses are chiefly :

1. Speciality courses—lasting 15 days.
2. Exploratory or correspondence or home study course with the use of kodochrome slides—This is undertaken in cardiology, haematology and radiology. Dr. Diamond, the cardiologist is in charge of the correspondence course in cardiology. Problem E.K.G.'s are posted through kodochrome slides with a view box and necessary clinical history of the cases, for interpretation by the participants. These are corrected and the answers are again mailed back to the candidates. Similar procedure is adopted in the interpretation of x-rays. In haematology, blood and bone smear pictures and other haematological data are sent through kodochrome slides along with clinical history for study and interpretation. This course is popular and many register from different parts of the world.
3. Circuit course—This is done at 8 centres. At the invitation of a medical association a team of experts visit the place and conduct the course or deliver the lecture.

3,370 physicians took advantage of the post-graduate courses in 1958. They represent 45 states, the District of Columbia, four provinces in Canada, seven foreign countries, and one territorial possession.

The maling, advertising and publicity sections of this agency are greatly responsible for the success of the programmes. The auditorium, library, cafeteria and living rooms for the guest speakers are additional features that add to the success of the Centre.

Research

Medical education, research and community care are the three fundamental functions of medical schools, and all medical schools in the United States fulfill these objectives. Since World War II the Federal Government continues to make liberal grants for research, and research activities have grown rapidly. The Congress appropriates large sums of money annually towards programmes of research and research construction. Funds are allotted for training research personnel. This has enabled medical schools to be centres of fundamental research and have advanced the research

for basic causes of disease. The establishment of the National Institutes of Health at Bethesda, Md. by the U.S. Public Health Service has greatly helped for the nationwide organisation and fostering of medical research. A wide range of medical and biological investigations is conducted and supported by the seven institutes. In addition to these institutes, five divisions of Public Health Service share in the responsibility for research project and training awards.

TABLE 6—NATIONAL INSTITUTES OF HEALTH APPROPRIATIONS FOR GRANTS AND AWARDS TO NON-FEDERAL INSTITUTIONS, AGENCIES AND INDIVIDUALS FOR FISCAL YEARS 1945 AND 1958

Nature of grant and $ appropriated	Research fellowships	Training awards	Research grants
1945	28,000	29,000	85,030
1958	6,812,000	32,560,000	99,345,000

Through the National Institutes of Health the research grants are made available to medical schools and other research centres. Some notable features are visiting scientist programme, financing conferences and seminars, encouraging basic research programmes and promotion of short-term medical research enlisting medical students for the project. Six classes of research fellowships are offered by the National Institute of Health.

They are: (1) predoctoral, (2) postdoctoral, (3) special research fellowship, (4) senior research fellowship, (5) student part-time research fellowship, and (6) postsophomore research fellowship.

In addition to federal grants, national polio, heart, cancer, etc., associations support research programmes. The universities also make generous research grants. The hospital clinical laboratories take off the load from the medical school basic sciences laboratories and the staff of the nonclinical departments thus find time to interest themselves on research projects. Clinical research laboratories are built and equipped well through the federal grants and these are directed by clinicians. Biochemists, microbiologists, pharmacologists and geneticists are hired by them and their salaries are met from the research grants. Many internists accept full-time research posts, since remuneration is reasonably good.

A variety of research programmes, both in basic medical sciences and clinical subjects, are under progress. Nation-wide cervical cytology screening programme supported by the U.S. Public Health Service, and the American Cancer Society, chemotherapy screening programme against cancer, research in cardiovascular diseases with special reference to atherosclerosis, radio-isotope and tracer studies, radiation cytology, tissue and organ transplantation, virus and tissue cultures, tumour transplantation, enzymology and advanced research in the field of biochemistry, research in neuropsychiatry and immunological aspects and behaviour of cancer cells are some of the projects under investigation. These projects to some extent, have done away with the artificial compartmentalisation of the different basic and clinical sciences, and one pleasantly observes the biochemist, microbiologist, anatomist, physiologist, clinician and the pathologist using common tools, discussing over a common table and labouring in the same laboratory for the solution of common or different problems in the interest of suffering mankind.

PROFESSIONAL COURSES

In tax-supported schools instruction in a variety of paramedical courses is given. This has enabled the authorities to meet the growing needs of paramedical personnel required for the innumerable public health and medical schemes of the nation. They are (1) School of Pharmacy, (2) School of Dentistry, (3) School of Social Services, (4) School of Nursing, (5) Course for Radiographers, (6) Course in Medical Technology, (7) Course in Physical Therapy and Rehabilitation, (8) Course on Hospital Administration, (9) Course in Mortuary Science for Funeral Directors. These form departments of a medical school.

Medical technology—The training of medical technologists is supervised jointly by the Council on Medical Education and Hospitals of the American Medical Association and by the American Society of Clinical Pathologists. The Board of Registry of Medical Technologists conducts examinations and certifies to the competence of technologists. The Board of Schools of Medical Technology is concerned with the evaluation and inspection of schools of medical technology. Acceptable schools for training medical technologists may be conducted by medical schools, hospitals, or other laboratories. Two years of study at a college is insisted upon as a requisite for admission to the course. During these two years they should have taken lessons in biology, bacteriology, parasitology, anatomy, histology, embryology, physiology, and chemistry. The course in medical technology is for 12 months, and instruction is given in the theory and practice of laboratory tests. The examinations are conducted twice a year at many centres and the M. T. (ASCP) certificate in medical technology is awarded to the successful candidate.

The writer visited some of the centres where training for medical technologists is given. These

are very well-organised and are in charge of instructors, and usually supervised by a medical director. Majority of the trainees and qualified medical technologists are women. Medical technologists usually receive salary of $250 to 400 a month.

The medical technology department in the Mayo Memorial Building at the University of Minnesota Medical School, Minneapolis is an ideal training centre. Dr. Evans, the Director, characterised medical technology as something more than dish washing, and advised that every effort must be made to enhance the prestige of the profession and induce the right type of persons for enlistment. The medical technology course at this centre is a four years course leading to the award of Bachelor's Degree. Training for a year is also given for the high school graduates. The trainees are given practical lessons in all the laboratory techniques in a specially equipped trainees' laboratory under the supervision of instructors. Later they are posted to work as apprentices in hospital clinical laboratories where they carry out tests on material received from the wards. A special feature in this centre is the training given for specialisation in medical technology, and the subjects offered for specialisation are immunology, haematology, etc. On the successful completion of the course a Master's Degree in Medical Technology is awarded. Library facilities are provided for the technicians.

Hospital administration—Persons who have qualified for Master's degree, specially in business administration and doctors who desire to seek administrative appointments in the hospital offer themselves for this course. The candidates admitted to the course need 12 months' attendance at the university and work as a resident in a recognised hospital. On qualifying they are appointed as directors of hospitals. In training hospitals they are guided and advised by a committee of senior clinicians.

School of nursing—It is very gratifying to note that nursing education has gained the status of a Faculty in the American universities. The pride of the profession is manifest by the members of the nursing profession in all their activities, and this has enabled the authorities to enlist the right type of women for the profession. Both diploma and graduate courses in nursing are popular.

State Public Health Laboratories

Each State has a public health laboratory. In addition to this there are county and municipal health laboratories. Although budget appropriation is done by the State Government, the state laboratories in some places are affiliated to the universities for administrative and other convenience. I visited the State Public Health Laboratory of Wisconsin at Madison. In this state there are 200 hospitals of 50 beds each and very few of these hospitals could secure the services of a full-time pathologist. The State Laboratory at Madison is housed in a building of its own and is fully air-conditioned. The Public Health Laboratories at Albany, Lansing and Alabama are about the best in the country. These laboratories undertake to carry out all the tests required by the clinicians, including sections on toxicology, water analysis, vaccine production, and cervical papanicolau cytology. Specimens from veterinarians are also accepted. No charge is made for specimens submitted by doctors. The mailing and sorting of specimens sections are extremely busy and efficient. The records section has 100,000 cards rotary index-filing cabinets. Containers with instructions and preservative fluids are mailed at the request of doctors free of charge. The washing and sterilisation, walk-in incubators, walk-in refrigerators, etc., add to the convenience of mass handling of specimens. The section on animal experimentation is well organised and carry out a variety of research programmes.

Health Information Series

The Public Health Service of the United States Department of Health, Education, and Welfare periodically releases pamphlets entitled "Health Information Series". Topics cover many aspects of healthy living, common diseases, their recognition and methods suggested to prevent them. Highly technical subjects like heart disease, gall stones, poliomyelitis, etc., are described in easily understandable style. Most of the pamphlets include advice under the column "When to see the Physician". The topics range from infectious diseases, malaria, cerebrovascular diseases and home care of the apoplectic, simple goitre, safe water, care of septic tanks, arthritis, home care of the sick, home sanitation, leukaemia, hot weather comfort, whooping cough, diabetes, anaemia, chickenpox, good teeth, drinking water and disinfection, tapeworm, mental health, menopause, influenza, pinworm, tuberculosis, typhoid fever, common cold and many more. These have high educative value and exert good influence in the prevention of disease. The public health departments of our States could do well to adopt this measure by issuing *"Your Health"* bulletins in the regional languages. These may profitably be distributed to school and university students.

Second World Conference on Medical Education

The Second World Conference on Medical Education sponsored by the World Medical Association was held at Chicago. The conference lasted for 5 days (30th August to 4th September, 1959). 810 delegates from 65 nations attended the plenary session of the conference. Excluding United States the delegates from India ranked third in attendance. It was pleasing to hear Dr. A. L. Mudaliar deliver the concluding message at the plenary session on "Medicine—A Life Long Study". The registration, the conduct of the sectional and plenary session meetings, programmes for fellowship, visits to medical institutions, and programmes for lady guests depicted high degree or organisational ability and perfection. The excellent arrangements bore the stamp and symbol of the large scale American organisational ability.

The exhibits depicting American Medical Education put up by the American Medical Association, Association of American Medical Colleges, American College of Surgeons, etc., depicted the tremendous progress in medical education, specially of the specialities in the mid-twentieth century since the publication of the monumental document by Flexner. The four sectional meetings of the Conference were well attended and discussions were very lively.

The topics for discussion at these meetings were :

Section I : Basic clinical training for all doctors,

Section II : Advanced education for general and speciality practice,

Section III : The development of teachers and investigators, and

Section IV : Continuing Medical Education.

The deliberations of the Conference were published in the journals of British and American Medical Associations. No participant of the Conference could attend the four sections and the writer had to contend himself by attending two sections to maintain the thread of continuity. Over a hundred papers were presented. The panel discussions and the informal "conversations" have emphasised the fact that Medicine—is a life long study, the theme of the conference. Many of the speakers pointed out that the practice of medicine varies from place to place and from country to country and the requirements of the general practitioners are greatly conditioned by socio-economic and cultural background of the countries. The qualities and qualifications of ideal teachers were catalogued but the methods and meaens to rear them up need yet to be explored. Research and teaching must go together and this combination of talents in a teacher alone can inspire a medical student. The good work done by the several international agencies in the training of medical teachers was reviewed and suggestions were made for expansion and modification of the activities of these agencies. The exchange of visiting professors must be encouraged. The need to introduce the medical student into research methods and create a taste for research was eloquently voiced by some and vehemently opposed by a small group of participants. Some delegates from Europe stressed the need for medical students to spend more time and energy in the clinic of a general practitioner and also get acquainted with the different facets of rural medicine.

One of the speakers very aptly described that the study of medicine begins at birth and as a biological phenomenon gets arrested only by the cessation of life. Every medical institution, association, and educator should plan for continuation study for the physician, teacher and researcher. It may not be possible to apply a single formula for this throughout the world, but certain latitude has to be accepted. The importance of the use of audiovisual aids was discussed and their increasing use was stressed. The employment of full-time staff in the medical schools was emphasised and the inclusion of non-medical scientists in research and teaching was favoured. Remarkable breath of friendliness prevailed throughout the conference. The Conference served as a clearing house for ideas and information and drew attention to our ignorance of basic issues, and the information supplied by several participants of this conference would serve material for taking decisions at many medical conferences in future. This conference made every one realise that progress is the keynote of the profession.

Recommendations

1. It is no good to copy or import *in toto* the American or British Medical Education and Public Health Organisation. Our financial resources, and several other factors including the rapidly increasing population offer a challenge to the medical educator, politician to evolve a more practicable scheme. The needs of the country must be borne in mind, for we need more doctors. The number of medical schools by a phased programme must be increased to 80 by 1970, and in the meanwhile admissions to the existing colleges should be increased. Any increase in the strength of students requires corresponding increase in the budget provision to cover accommodation, equipment and staff.

2. In some, if not all, States the medium of instruction up to the matriculation examination and even upto pre-university class is in the regional language and it is very difficult for the student to learn sciences and medicine in English. Moreover the students are not mature in mind and physically fit at the time of entrance into medical colleges, and hence they do not take up study seriously. The students manifest lack of genuine interest, and give the impression of being least prepared for responsibility. It may, therefore, be desirable to consider limiting admissions to graduates in arts and science.

3. Admissions to medical colleges must be made on the basis of merit only, and not on any other consideration. The inordinate delay in admissions could be avoided if the selection of students is entrusted to a committee of the Medical Faculty. Something must be done in this direction.

4. Although students graduating from our medical colleges are in no way inferior to those from foreign countries, greater emphasis should be laid on practical and tutorial type of instruction and the lectures should be reduced to the minimum. More staff is required and it is essential that the minimum staff recommended by the Indian Medical Council for admission of 100 students be given effect to. Frequent transfers of staff must be avoided. Conditions must be conducive for the staff to evince interest in their work, and teachers should be devoted to the training of students. There is no alternative to the establishment of full-time units for enlistment of good teachers who would inspire the students. This fact is responsible for the maintenance of high standards in medical educators and research workers in U.S.A. The writer saw clinicians toiling late in the night in the wards of the Johns Hopkins, and Chicago University Hospitals. The cost of such an adventure must be met somehow. Teaching and research jobs must be attractive. Promotions to higher posts of responsibility should not be determined solely by seniority, as is done by the Public Service Commission, but it must offer some incentive for good work and must be periodically reviewed by a select committee, some members of which should represent the medical faculty. The present system has led to deterioration in efficiency and failed to encourage the young, energetic and enthusiastic members of the staff.

It should be the continuous endeavour of medical educators to attract first-rate doctors to teaching posts in anatomy, physiology, pharmacology, microbiology and pathology, and prevent non-medical men from filling them. This, in a large measure, will discourage the much spoken of attempts at correlative or integrated methods of teaching. The services of non-medical Ph.D's are, however, indispensable in medical and biological research.

5. Efforts should be made to increase the number of postgraduates registering for various specialities. This measure alone can overcome their efficiency, and the only way to do it is to recognise all medical college and teaching hospitals as postgraduate centres. They should be quickly upgraded. Postgraduate training in the specialities is possible in every medical college in this country. Financial assistance should be given to deserving candidates. We must discourage our graduates proceeding to foreign countries for post-graduate training, since our training compare not unfavourably with foreign postgraduate courses. Every one desiring continuation study must be given the facilities. This cannot be done if only about 20 or less of our colleges are recognised for postgraduate training. We need a great number of specialists in our country both for the medical colleges and the hospitals at the periphery.

6. It is difficult for the Government to meet the medical and public health needs of the ever-increasing population in this country. It may be wise to delegate the administrative control of medical colleges to the universities, making generous budgetary provision. The existence in India of affiliating universities has created untold problems and has been responsible for the inertia in initiating experiments in education, particularly in medical education. Universities must take more interest in organising postgraduate medical education, both in the specialities and research aspects.

7. The costs of medical research is prohibitive. But means must be explored to establish and foster research units in medical colleges. Research in basic medical and clinical sciences should also be encouraged.

Students must have freedom to express their viewpoints. Group discussions must be encouraged. They must be made to work hard, and check the high percentage of failures at university examinations. Any educational system must be designed to exchange thought and ideas between the teacher and the student. Increasing use of audiovisual aids through kodochrome slides should be introduced. Expansion of photo-art-illustration section of colleges is necessary. It must be in a position to take to movie, so that valuable clinical materials are not lost. Periodical assessment of students by way of quiz, fortnightly and quarterly tests are necessary to find out whether the students are learning their daily lessons. This latter should be taken into consideration for promotion to higher classes. This will help to establish the much desired "student centred type of education". The

student must be made to realise that the study of medicine is a graduate course and he should be discouraged from dissipating his energy in extra-curricular activities. Student guidance council may help in this direction. The assessment of student-learning at the university examinations exclusively by internal examiners for undergraduates, and only by external examiners for post-graduates may be adopted with advantage. The place for National Board of Specialities needs to be examined.

9. There is a great need for the establishment of effective health service for each medical college.

10. We must select good teachers, and the leader among them should be selected as the dean. The staff once appointed must enjoy freedom, to enable them to plan and organise the departments with the least interference. The dean must be the policy maker and not merely a passive agent in the administrative machinery. His voice must be heard ; he must have a say in the selection of the staff and planning of the curriculum.

11. The teaching hospitals must be thoroughly reorganised. At present the staff are overburdened, even upto the point of exhaustion, with the responsibility of patient care in the outpatient clinic and in the wards, with hardly any time and enthusiasm left for teaching the students. These hospitals must be placed on a par with referal hospitals. This will improve the standard of investigative work and the patient care and teaching. The number of paying cases has also to be increased. Clinical research can then be possible.

12. Efforts must be made to maintain up-to-date records of patients, and these must be made readily available for future reference. Any investment on this, by way of filing cabinets, index cards, stationery, dictaphones, and the employment of statisticians, stenotypists, etc., should not be grudged. The reputation of an institution is largely dependent on the accuracy of maintenance of records. This is a pre-requisite for any research undertaking.

13. Libraries in the medical colleges must be enlarged, and qualified staff appointed. It is beneficial that medical colleges enlist themselves for membership of the Association of Medical Libraries of U.S.A. and Canada. The medical school libraries of the United States would gladly make gifts of back numbers of journals to any foreign medical school, and these could be shipped to India free of charge through the Smithsonian Foundation. The writer was fortunate to procure journals dating back to 1900 for the Guntur Medical College and these are valued approximately at 40,000 rupees.

14. Many more centres for training laboratory technicians, nurses, social workers, dentists, pharmacists, workers in rehabilitation and physical medicine, radiographers, etc., need be started. Wide publicity regarding the prospects and scope of these professions be given in schools and colleges for attracting bright students. It is preferable to enlist girls for these professions.

15. Although, we do not encourage our medical graduates to take up residency or postgraduate studies in U.S.A., or U.K., it is most desirable that our senior teachers are deputed for 6 months and junior teachers for 9 to 12 months to some institutions in U.S.A. or U.K. for acquainting themselves with the organisational set up of medical schools and hospitals, methods employed in teaching, and techniques employed in research.

CASE NOTE

TIETZE'S SYNDROME

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Tietze's syndrome is a condition of unknown aetiology, characterised by painful non-suppurative, non-neoplastic and non-specific swelling of the costochondral and sternoclavicular junction. Tietze described four such cases in 1921. The condition is an uncommon one and till April, 1959, 190 cases were recorded, including two cases from India (Wrench, 1943; Chakravarty, 1950). It is held that micro-trauma or diseases of the interarticular costosternal ligament, extending from the 2nd costochondral joint to the fibrous tissue between the manubrium sterni and the body of the sternum, is the precipitating factor. Strain of coughing during infection of the respiratory tract may play an important part. Deficiencies of vitamin B and vitamin C are held to be other factors responsible for the syndrome. Contracture of the ligament lying close to the second costal cartilage is thought to have 'buckled forward' the cartilage to produce the swelling. Histopathological studies have not demonstrated any consistent finding,—inflammatory or neoplastic—the cartilage being normal.

Symptomatic treatment is the mainstay of the management of a case. Local infiltration with 20 mg. of hydrocortisone, administration of vitamins B and C, and also surgery have been advocated (Editorial, 1959).

The following case is recorded for its uncommonness and additional clinical features.

Case Report

Miss I, aged 18, was admitted into the hospital on 2-1-60 with complaints of irregular fever and recurrent episodes of acute pain in the front of the

right chest associated with swelling of variable duration, along with vague pain in the back for the last 6 months and cough occasionally with slight expectoration. She complained of irregular movement of bowels and nausea prior to admission; the stools contained blood and mucus which were controlled with amoebicidal drugs.

Past history—Three years back, the patient ran an irregular, low grade temperature, with pain in the chest but without any swelling. She was hospitalised and fully investigated. No aetiological factor could be found. Salicylates and cod liver oil were given and she was relieved of her complaints in 2 months.

Family history—Her father died of pulmonary tuberculosis.

On examination—The patient was found to be of asthenic build, and anaemic; the area of the second right costochondral junction was found swollen, spindle-shaped ($1'' \times 1\frac{1}{2}''$), markedly tender, with normal colour of the skin, which was freely mobile over the swelling. There was tenderness over the right rhomboidei muscles. Heart and lungs—normal; abdomen—tender with gurgling right iliac fossa. Temperature—irregular with maximum of 99°F. Pulse rate was disproportionately rapid. Hb.—70 per cent (Hellige). W.B.C.—7200/c.mm. with poly. 58 per cent, lympho. 26 per cent, mono. 8 per cent, eosino. 8 per cent; E.S.R.—23 mm/1st hour.

Widal test—negative.

Urine—normal and sterile on culture. Bence Jones protein—absent.

Stool—normal.

Sputum for A.F.B. by concentration method—Negative (3 times). Gastric lavage for A.F.B.—negative. Mantoux test—negative in 1/10,000 and 1/1000 dilutions.

X-ray of the chest, spine and sinuses—No abnormality. X-ray of the swelling—No bony abnormality; only a soft tissue shadow was present.

The patient was put on a powder containing aspirin gr. 5, codeine gr. 1/6 with aluminium hydroxide, thrice daily and novalgin 2 c.c. intramuscularly daily for 6 days without much relief. The intensity of the pain and the size of the swelling varied; morphine was given twice to control the severe bouts of pain. Six weeks later, in addition to the aspirin powder, vitamin B complex, 2 c.c. intramuscularly on alternate days for 2 weeks and autohaemotherapy starting with 0·5 c.c. and gradually working upto 5 c.c. intramuscularly on alternate days—12 injections in all were given. The pain persisted for about a week during this regime; thereafter, the intensity gradually diminished, and by the 13th day of the treatment she was absolutely free from pain and tenderness. The swelling also subsided gradually during this period. Temperature settled down and pulse rate became proportionate. There was gain in weight of 1 lb. only.

Comments

There was history of pulmonary tuberculosis in the family of the patient; so also was the case with the patient described by Chakravarty (1959). The patient was in the hospital for vague pain in the chest, with irregular temperature for 3 years. Under supervision no positive finding was available. She settled down in 2 months' time. This time, she had the characteristic swelling in the second right costochondral joint as described by Tietze. The pain was often acute. Aspirin and novalgin were not sufficient to control the pain and morphine had to be used twice. She had disproportionate tachycardia and low grade irregular temperature. Pain, swelling, temperature and tachycardia subsided on parenteral administration of vitamin B complex, autohaemotherapy and aspirin. While no claim is made about the efficacy of the therapeutic regime, the relief so coincided with the institution of the therapy, that one would hesitate to discard it outright without further trial.

Summary

A case of Tietze's syndrome is recorded.

The case had low grade temperature, disproportionately rapid pulse rate and family history of pulmonary tuberculosis.

A regime of parenteral vitamin B complex, autohaemotherapy and aspirin is put forward for a fair trial in the treatment.

Acknowledgment

My thanks are due to the Superintendent, Assam Medical College Hospital, and to the house and nursing staff.

References

Chakravarty, S.—*J. Indian M. A.*, **32**: 287, 1959.
Editorial—*Ibid*, **33**: 100, 1959.
Wrench, G. T.—*Ibid*, **12**: 146, 1943.

I.M.A. NOTIFICATION

It has been decided to set up a locator file of names and addresses of those doctors who went to Canada and U.S.A. for internship/residency training sponsored by I.M.A. To compile such a file, it is necessary to have up-to-date information about these doctors. For this purpose, a questionnaire has been prepared.

All concerned are requested to furnish the Hony. General Secretary, I.M.A. (Hanging Bridge, Daryaganj, Delhi 6) with their present address so that the questionnaire may be forwarded to them without delay.

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ANTIBIOTICS IN HOSPITAL INFECTIONS

It can hardly be denied that the use of antibiotics in clinical practice has largely controlled bacterial infectious diseases, and has in a large measure contributed to the success of modern surgical practice. But a recent report[1] from Boston provides food for serious thought, if not of alarm. An analysis of hospital data about the frequency of bacteriaemia, meningitis and empyema (due to pneumococci, streptococci, staphylococci and various Gram-negative organisms) and of the mortality records of these infections for 1935 (the pre-sulphonamide), 1941 (full effect of sulphonamide) and 1947 (penicillin), and for 1951, 1953, 1955 and 1957 (broad-spectrum and other antibiotics) reveals a remarkable change in the behaviour of the micro-organisms towards the antibiotics.

Pneumococci and haemolytic streptococci, which do not acquire resistance to penicillin, are now less common causes of serious infection. But bacteriaemia and meningitis from staphylococci, which easily acquire resistance to antibiotics, have become much more frequent than before. The 'coliform' group of organisms is now producing both bacteriaemia and meningitis. The mortality figures from bacteriaemia show a 50 per cent rise, compared to the 1935 figures. Inspite of the introduction of a great range of antibiotics, the mortality from infections is increasing. This increase of mortality is a warning that we have not advanced in therapeutic fields, as some of us suppose.

People now live longer than before, and the mortality figures are now weighted by older patients. Surgery has become more 'adventurous', and susceptibility from infections from surgical methods deserves a share of responsibility. Infections which were most feared in the past have now become insignificant. But the widespread use of antibiotics in hospitals have brought into prominence two kinds of new bacteria, the staphylococcus and the group of coliform organisms. Staphylococcus has now become more frequently resistant to penicillin and other antibiotics. The coliform bacilli are naturally resistant to most of the major antibiotics.

A report[2] from Seattle states that from 1955 through 1959, resistance to penicillin changed but little from the level of 60 to 80 per cent previously reported. Resistance to streptomycin remained stable at about 55 per cent. Resistance to tetracyclines, chloramphenicol and erythromycin was considerable, but mutants resistant to neomycin, bacitracin, vancomycin, ristocetin and kanamycin was not observed. It is believed that the greater the amount (in kilogram) of an antibiotic consumed the greater the likelihood of encountering resistant strains. It has also been found that chloramphenicol has much less effect in inducing the emergence of resistant strain than does other antibiotics tested.

The problem of antibiotic-resistant staphylococcal infection is being studied in the Postgraduate School of Medicine, London. The report[3] of this study emphasises the general restriction of the use (particularly for prophylaxis), abandonment of the use of penicillin except in specified wards, and the invariable prescription of two antibiotics together, or one antibiotic with a sulphonamide preparation, instead of a single drug. It is possible that when two drugs are acting together bacterial resistance is less likely to develop. In this protracted study on a large group of patients it has been found that the frequency of penicillin resistance fell from 74 to 52 per cent and of resistance to both penicillin and tetracycline from 51 to 36 per cent. Most of the serious infections contracted were from strains possessing multiple resistance. During the study there was a fall in the incidence and mortality of these infections. There was also a diminution in the frequency of penicillin resistance in carrier strains from nurses. These changes for the better are attributed to the antibiotic policy enunciated above. A general policy of combined treatment seems justified. It has also been emphasised that in combined treatment each antibiotic must be given in its full individual dose.

Divergent views[4] are held regarding the question of restricting the use of one or a group of antibiotics. When the infecting organisms are resistant to penicillin, streptomycin and the tetracyclines the physician can yet choose from vancomycin, ristocetin, erythromycin, chloramphenicol, kanamycin, novobiocin, triacetyloleandomycin, and furaltadone. For milder infections any two suitable antibiotics may be given by mouth. For more serious infections vancomycin given alone intravenously is very effective. Strains of staphylococci resistant to vancomycin have not yet been encountered.

[1] Finland, M. *et al*—*J.A.M.A.*, **170**: 2188, 1959.

[2] Bauer, A. W. *et al*—*J.A.M.A.*, **173**: 475, 1960.

[3] Barker, M. *et al*—*Brit. M. J.*, **1**: 11, 1960.

[4] Editorial—*J.A.M.A.*, **173**: 545, 1960.

GENERAL PRACTICE DIGEST

THE PREMENSTRUAL TENSION SYNDROME

Premenstrual tension is the cyclic occurrence of a wide variety of many nervous or emotional symptoms and somatic complaints which tend to occur about seven to ten days before the onset of menstruation. Premenstrual nervous and somatic complaints interfere with the domestic tranquillity and social activity of the patient and her household. This syndrome may occur in single or married women, usually before the age of 35 years; it has no relationship to pregnancy.

Symptoms usually start about seven to ten days before a period and terminate rather abruptly at the onset of the menstrual cycle. The more constant and predominant features of the syndrome are nervous or psychic. The somatic symptoms include diffuse headaches of a pressure or tension type, painful swelling and tenderness of the breasts, abdominal bloating, nausea, gastro-intestinal cramps, some change in bowel function, and a gain in basal body weight of 2 to 6 or more pounds. There is evidence of severe water retention and oedema. Vague rheumatic-like pains are common. There may be urticaria, marked thirst and a craving for food or sweets during this period.

The cause of the premenstrual tension syndrome is unknown. The fundamental disturbance is transitory fluid retention, both in external tissues and in internal organs. With the onset of menstruation the various tissues lose their retained sodium and water and the symptoms disappear. Hormonal imbalance is believed to play an important part in the electrolyte and fluid retention. There may also be an alteration of carbohydrate metabolism with increased sugar tolerance. Some of these patients have hypoglycaemic tendencies premenstrually, and the nervous and psychic changes may be the result of low blood sugar levels. Chronic hypoglycaemia is not an important occurrence in these patients. The cyclic elaboration of ovarian hormones is believed to be responsible for the capriciousness of disposition found in most women during the premenstrual phase. A psychological origin of the premenstrual tension syndrome has also been suggested.

Treatment—In the majority of instances, most patients benefit from measures designed to eliminate fluid retention and tailored to fit the individual problems. The addition of sedatives, tranquillisers, stimulants and hormonal therapy in addition to simple psychotherapy may be indicated for the individual patients. The programme of treatment should be individualised and adjusted to the needs of the patient.

Psychotherapy—A simple explanation of her condition and reassurance to the patient will often improve the patient's attitude and reaction of her symptoms. She must be assured that her symptoms are not imaginative, but are due to an underlying physiological basis.

Diuretics, tranquillisers and stimulants—Measures designed to prevent fluid retention are generally effective in relieving an appreciable number of nervous and somatic complaints. The patient should be treated "as a whole", and the inconvenience of too many medications should be avoided. A preparation with multiple ingredients is very useful. "Pre-mens" tablet is such a preparation. It contains ammoninm chloride (to lessen water retention), homatropine methylbromide (to lessen generalized tension and certain gastro-intestinal complaints), caffeine (for control of moodiness and minor depressive symptoms), and vitamin B complex (as an aid in the metabolism of oestrogen by the liver). Another useful agent is "M-minus 5" tablet, which contains pamabrom and acetophenetidin for the control of fluid retention and the alleviation of pain.

Two Pre-mens tablets three times daily after meals, or one to two M-minus 5 tablets four times daily are recommended. Amphetamine preparations in varying dosage may be given for relief of symptoms of lethargy, moodiness, disinterest or depression. A less stimulating preparation is dexamyl. Edrisal or daprisal may give relief to patients who are listless and have diffuse headaches, vague pains or cramps.

A prescription containing phenobarbital and tincture of belladonna (for increased tension and anxiety), or a little amphetamine or dexamyl (for predominantly depressing symptoms) may prove useful.

Patients with visible oedema (e.g. localised swelling of the ankles and puffiness of the hands), localised headaches (not migraine), or abdominal distention and vague, rheumatic-like pain, should take oral diuretics like diamox, diuril, neohydrin or esidrex in the morning during the premenstrual phase, if there has been a gain of more than one pound in basal weight, or a definite recurrence of the distressing premenstrual symptoms.

In patients who have classic manifestations of migraine which recur premenstrually, ergotamine preparations like cafergot must be taken at the onset of symptoms.

Hormonal therapy—The hormonal imbalance produced by a relative excess of oestrogen or a deficiency of progesterone during the premenstrual phase, may be corrected by the use of testosterone (to suppress endogenous oestrogens) or by the supplementary administration of progesterone. Oral testosterone and ethisterone preparations appear to be of equal effectiveness. In selected cases these drugs have given satisfactory results.

Progesterone given intramuscularly on alternate days is, however, more effective. A long-acting preparation, delalutin begins to act within three days of injection and lasts for approximately 14 days. It is a more convenient form of therapy. Delalutin is hydroxyprogesterone caproate dissolved in sesame oil with 30 per cent benzyl benzoate, 125 mg. per ml.

Many patients whose symptoms have been controlled by diuretics and tranquillisers with or without hormones may be able to discontinue therapy or omit most of the premenstrual programme in about six months. But relapse may occur in some cases.

Patients with moderately severe premenstrual complaints may require methyltestosterone in doses of 10 mg. twice daily for adequate control. But such doses tend to delay the menses and may intensify menstrual cramps or aggravate skin blemishes. When the symptoms are of mild to moderate severity, ethisterone tablets, 30 to 150 mg. daily from the fourteenth through twenty-

sixth day, have been found satisfactory in a majority of cases. In failures and in patients with severe symptoms, progesterone may be effective in doses of 25 to 50 mg. intramuscularly on alternate days from the fourteenth through the twenty-sixth day. The administration of 1·5 to 2·0 ml. of delalutin may be tried on the twelfth day of a 28 day cycle; the dosage may have to be altered the following month for adequate relief.

Methyltestosterone given premenstrually in doses of 5 to 10 mg. daily may help to control the symptoms, especially when mastalgia is a prominent complaint.

Ethisterone or progesterone buccal tablets, 10 mg. two to three times daily from the fifteenth through the twentysixth day of a 28 day cycle, may prevent the symptoms resulting from hydration and relieve symtoms of tension, anxiety or fatigue. This therapy is especially helpful for women whose periods are prolonged or profuse and for patients with 26 to 35 days cycles, whose symptoms may occur prior to the institution of preventive therapy because of short cycle. When patients are only partially relieved, an increase in dosage to one 25 mg. tablet two or three times a day may be necessary.

Another effective treatment for married women is the intravaginal insertion of one 50 mg. colprosterone tablet on alternate nights from the sixteenth through the twenty-sixth night.

If the above dosages of oral or intravaginal tablets fail to produce the desired effects, a trial dose of progesterone intramuscularly for one to two months may be tried.

If patients still complain of anxiety and tension with periods of emotional instability before or after the addition of hormonal therapy to programme, tranquillisers may be effective.

In dermatoses of premenstrual tension syndrome, e.g., urticaria or a painful herpetiform stomatitis, the premenstrual administration of oral cortisone therapy may be helpful.

From an article by A. Seymour Parker, Jr.—*Med. Clin. N. Amer.*, **44** : 339, 1960.

CURRENT MEDICAL LITERATURE

Postpneumonectomy State

BURROWS, B., HARRISON, R. W., ADAMS, W. D., HUMPHREYS, E. M., LONG, E. T. AND REIMANN, A. F. (*Am. J. Med.*, **28** : 281, 1960) from the Department of Medicine and Surgery, University of Chicago, School of Medicine, Chicago, Illinois, from an analysis of the clinical and physiological observations in 30 cases report :

In the majority of cases there is a progressive overinflation of the remaining lung during the first postoperative year but no significant decrease in exercise tolerance. Pulmonary function tests and cardiac catheterisation studies reveal a decrease in pulmonary diffusing capacity and an elevated right heart pressure on exertion. These responses are discussed and are believed to represent the expected pattern for a single normal remaining lung. There is no evidence of destructive changes in the remaining lung in most subjects, even after prolonged pulmonary overinflation.

Nine patients demonstrate more severe respiratory symptoms. In four instances, these may be ascribed to a complicating cardiac or pulmonary disorder. The remaining five patients show evidence of chronic obstructive emphysema which is believed to have developed independent of, and, in four cases, prior to the pulmonary resection. The physiologic abnormalities in these patients are certainly aggravated as a result of the removal of functioning lung tissue.

Those patients with an abnormal remaining lung show resting pulmonary hypertension and, in a few instances, clinical evidence of cor pulmonale. The perfusion function of the lungs is particularly sensitive to pulmonary resection; preoperative tests applicable to this problem are discussed.

The effects of pneumonectomy on pulmonary artery pressure and pulmonary diffusing capacity are contrasted with the reported effects of exertion, both conditions resulting in an increased blood flow per unit of lung. An active vasomotor effect of exercise on pulmonary vasculature is believed to exist to explain the differences in response of the pulmonary vasculature to these two stimuli.

Paediatric Aspects of Congestive Heart Failure

NADAS, A. S. AND HAUCK, A. J. (*Circulation*, **21** : 424, 1960) from the Department of Paediatrics. Harvard Medical School, and the Sharon Cardio-Vascular Unit of the Children's Medical Centre, Boston, Mass., observe :

Congestive failure in infancy and childhood may occur in a number of diseases. Congenital heart disease, however, is probably the most common cause of failure, with rheumatic fever second. Although the basic physiology of cardiac decompensation is similar in adults and children, the presenting clinical picture may be somewhat different in the 2 groups.

The authors believe that infants and children with congestive failure should be treated vigorously, as the mortality rate of these youngsters with severe heart disease has decreased appreciably since a more optimistic attitude prevails among parents and doctors about these problems. Vigorous use of anticongestive measures and antibiotics is worthwhile and results in many instances in the survival of an infant to an age when successful surgical repair is feasible. Certainly not all babies with congestive failure due to congenital, rheumatic, or other kind of heart disease can be salvaged. But surely the experience of the last few years has given the authors a much more optimistic outlook on this entire field. There are enough children attending school and enjoying life today who seemed at 'death's door' in infancy to make one hesitate to give an unqualifiedly poor prognosis to almost any child in congestive failure. Similarly, one is more and more reluctant to suggest cardiac surgery as a dramatic emergency measure except in a few well-chosen cases. Intelligent medical management can salvage a large number of these children and allow them to survive to an age when relatively low surgical mortality may be offered.

Relationship Between Fatty Liver and Diabetes Mellitus

KALK, H. (*German M. Monthly*, **5** : 81, 1960) from the Medical Division of the City Hospital, Kassel, observes :

Liver biopsies in 121 diabetics revealed cirrhosis of the liver in 30. Even allowing for a special case selection, the co-existence of the 2 diseases must thus be much more frequent than has generally been assumed. In 18 patients diabetes preceded cirrhosis, while in 16 cirrhosis or hepatitis preceded the onset of diabetes. In the latter cases it is thought that hepatitis and the subsequent cirrhosis led to pancreatic disease, which also involved the islets. However, in the majority of cases diabetes is a primary disease. In a high percentage of cases of 'senile' diabetes there is also fatty liver (among the author's biopsy material there were 40 such cases i.e., 40 per cent).

As previously shown for fatty liver of other causes, some cases of long-standing fatty liver resulted in cirrhosis due to mesenchymal reaction. Histological study showed the same changes in the fatty liver of diabetics. At the same time, the hepatic tissue (as obtained by biopsy) tended towards an enzymatic picture seen in hepatitis.

The fatty liver of diabetes was characterised histologically by coarse fat droplets and prominent vacuolisation, lighter colour and variation in size of the liver-cell nuclei. This picture was also seen in those patients who did not develop diabetes until later, i.e., there exists a prediabetic stage which consists of a still compensated disorder of carbohydrate metabolism leading to fatty changes.

While the development of diabetes could be predicted from the described characteristic histological picture, it was also possible to produce a regression of fatty changes and prevent the onset of diabetes by placing the patient on a low-calorie, low-carbohydrate, non-alcohol diet.

Basal Ganglia Operations for Parkinsonism

COOPER, I. S. (*Ann. Int. Med.*, **52** : 483, 1960) from the Department of Neurosurgery, St. Barnabas Hospital, and the Division of Neuromuscular Disorders, New York University Post-Graduate School of Medicine gives in the following lines the summary of his observations on the results of 1000 consecutive basal ganglia operations for parkinsonism.

Since 1952, more than 1,000 basal ganglia operations for the tremor and rigidity of parkinsonism have been carried out on the service. These operations were performed either by the author or by neurosurgical residents under his immediate supervision.

Of the cases subjected to chemopallidectomy or chemothalamectomy, 80 per cent obtained relief of tremor, rigidity and deformity, and attendant symptoms such as bradykinesia and gait and postural abnormalities. The mortality rate for the first 1,000 consecutive operations was 2·4 per cent. The incidence of hemiparesis or hemiplegia was slightly less than 3 per cent.

The tremor, rigidity and deformity of parkinsonism can be completely relieved by this type of surgery. Many five-year cures of these symptoms are now demonstrable in the personal series of cases reported in this paper.

Clinical physiologic testing of a reversible lesion placed in the thalamus or other site within the basal ganglia is essential if one hopes to reproduce consistent relief of parkinsonian tremor and rigidity, and to maintain a low incidence of risk. This clinical physiologic testing must be combined with correct roentgenoanatomic localisation of lesion placement, and the lesion in each case must be tailored to fit the requirements of the particular patient, if consistently safe and rewarding results are to be obtained.

The site of the lesion of choice for relief of parkinsonian tremor and rigidity is the region of the ventrolateral nucleus of the thalamus. Such a lesion includes the reticular nucleus of the thalamus, the zona incerta, and afferent fibres to the thalamus from the globus pallidus, cerebellum, red nucleus and vestibular nucleus, as well as the efferent fibres to the cerebral cortex.

The meticulous selection of candidates for surgey is as important as the meticulous performance of the operation. Patients in the seventh and eighth decades of life may be operated upon with the same possibility of benefit as may those in the younger group, as long as they are selected in accordance with the requisites described in this report. The incidence of good results achieved by surgery will be directly proportional to the judgment and insight exercised in the selection of surgical candidates.

Surgical treatment of parkinsonian tremor and rigidity is now indicated relatively early in the course of the disease. Male patients should be operated upon before it is necessary for them to give up gainful employment. Female patients should be operated upon before they become unable to carry out their activities of daily living independently.

Surgical therapy is now applicable to a large percentage of the parkinsonian population. Although medical therapy deserves a complete and definitive trial in each case, surgical therapy has certain irrefutable advantages once the case has been demonstrated to be progressive, and threatens interference with the activities of daily living, and the eventual incapacitation. Surgical therapy can provide rapid and often complete relief of tremor, rigidity and deformity, and the attendant motor symptoms of bradykinesia, poverty of movement, and other functions—often to a remarkable degree. Not only does surgical therapy abolish these symptoms or reverse the deformities present, but it has also now been demonstrated that such relief of hyperkinetic phenomena has endured following operation for as long as six years, which is the present time limit of this study. Five- and six-year cures of tremor, rigidity and motor abnormalities without any evidence of recurrence are well documented. In many instances there has been amelioration of the secondary parkinsonian symptoms, such as masked facies, excessive sweating and oculogyric crisis. However, it is to be emphasised that surgery is indicated only when the primary symptoms of tremor and rigidity are paramount. Surgical therapy offers the only means not only of reversing the motor symptoms which are present, but also of halting the progression of the disease in the extremities which are alleviated of these symptoms.

NOTES AND NEWS

"Health for Peace" Programme

President Eisenhower has signed a law creating a new international "Health for Peace" programme, it was announced on 13-7-60.

This will be an international medical research programme to be financed mainly by foreign currencies received by the United States in payment for sales of agricultural surplus commodities. These funds and additional Government credits will be used for equipping hospitals and laboratories abroad and for the training of foreign specialists in the United States as well as that of Americans abroad. The programme will be directed by the U.S. Public Health Services.

New Drug for Treatment of Cancer

Using a new synthetic drug called methotrexate, the team of American experts working in two hospitals in Nairobi, one an Asian and the other a European institution, treated 41 African patients most of whom were beyond surgical aid and on the threshold of death.

The drug produced startling reactions, causing large cancerous growths to disappear within ten days after treatment. After another month the experts will follow up as carefully as possible the cases of patients already treated. It is also planned to increase the number of cancer case histories to confirm whether the drug does work.

Mr. Michael Wood, Executive Director of the African Research Foundations under whose auspices the new treatment was organised, said: "We would not like to say that this is a cure, but it is a considerable break-through and it is a fact that many of the patients who were past surgical treatment would have been dead today but for the drug."

Mr. Wood and a Nairobi surgeon, Mr. John Duff, worked with the American team and together produced a technique for introducing a catheter or tube into the artery supplying the area of the cancerous growth. In several cases the catheter had been left in place in case of the cancer returning.

It is claimed that the drug had a remarkable effect on patients suffering from cancer of the face or nasal sinuses and, in particular, in the cases of women with cancer of the cervix. But there had been no reaction in cases of cancer of the liver.

The drug was injected intra-arterially by using the catheter and the injection continued at a fixed rate over a period of 24 hours. This subjected cancerous growths to a tremendous bombardment. A second drug was injected intramuscularly to prevent damage to bone marrow and body tissues when the drug flowed back into the blood stream.

New Remedy for Heart Failure

Four research doctors at the Johns Hopkins Medical School, Baltimore, have after experimenting on dogs, developed a technique and used it to treat 20 heart failure patients. The treatment, which was applied to an eight-week-old baby and a man of 80, was successful and 14 of the patients are still alive.

The treatment is similar to artificial respiration. A doctor presses hard on the breast bone of the patient which squeezes the heart and forces the flow of blood through the arteries again.

Hitherto, the normal treatment for heart failure has involved opening the chest and massaging the heart itself.

U.A.R. Nationalises Pharmaceutical Import Business

The United Arab Republic on 17-7-60 nationalised the pharmaceutical import business, a Minister of Supply official announced recently.

Meanwhile, President Nasser ordered the seizure of all firms importing pharmaceutical products in a move to nationalise the industry in Egypt. Egypt imported a total of $25·5 million worth of pharmaceutical products in 1958. The following year this dropped to $18·6 million. The establishment of a new organisation, "the general authority for pharmaceutical products", which will import pharmaceutical and chemical products and medical equipment has been announced. Distribution of these imports will be carried out by the "general organisation for trading and distributing of pharmaceutical products."

Treatment against Strontium Radiation Developed

A new method of treatment against strontium-90 radiation poisoning, superior to any used to date, has been developed at Gumma University, Central Japan. Dr. Riji Ogawa, Director of the radio-isotope laboratory of the university's medical department, announced that his team had succeeded in driving strontium-90 out of the bodies of animals by combining the use of achromycin, an antibiotic, with that of thiosulphuric acid, an antidote.

Dr. Ogawa said that he gave subcutaneous injections to mice of 1 microcurie of strontium-90 and then treated the mice with 0·2 c.c. of ¼ per cent solution of achromycin once a day and an 8 per cent solution of thiosulphuric acid. This was sufficient to eliminate from the body 80 per cent of the strontium that had gone in.

Till now sodium-calcium citrate and magnesium chloride have been used to drive out strontium-90, but the large quantities required have made them highly toxic. The new treatment dispenses with large quantities, making for low toxicity.

Belgian Leprosy Centre

The Belgian Leprosy Centre, Polambakkam, was handed over to the Madras Government, at a function held on 19-7-60. Mr. M. A. Manickavelu, Health Minister, who was present paid a tribute to the work of the doctors attached to the centre in the treatment of leprosy cases.

The centre, with 30 beds, is located in an 8-acre plot in Polambakkam, a village, about eight miles from Madurantakam. It has an air-conditioned operation theatre, x-ray and other modern equipment to treat chronic cases.

Dr. F. Hemerijckx, Director of the Centre, who formally handed over the institution to the Madras Government, recalled how it was started five years ago and said the expenses which came to Rs. 15 lakhs were borne entirely by the Belgian Leprosy Foundation (Brussels). He referred to the work of the centre and said that they had been in contact with over 25,000 leprosy patients. As a result of the treatment given by the 50 clinics attached to the centre, the infectivity of the disease and its spread had been reduced.

Count Weemaes representing ex-king Leopold of Belgium, who was present on the occasion, read a message from the ex-king offering greetings and wishing prosperity to the centre. A message sent by the Governor of Madras was read by the Minister.

Importance of Census Data Stressed

Addressing the concluding plenary session of the H.N. seminar at Bombay on 7-7-60 on Evaluation and Utilisation of Population Census Data in Asia and the Far East, Dr. V. K. R. V. Rao, the Vice-Chancellor of Delhi University, stressed on the importance of census data in the study of various aspects of a country's life. He said that the seminar had emphasised the importance of designing census to provide a proper basis for the future analysis of social and economic problems.

Among other things, the Seminar had discussed the special usefulness of population census data for demographic analysis and the formulation of population policy; the importance of economy in the use of scarce resources in taking census and the importance of improving the precision of census data.

D.T.M. & H. Course

The nine months' course of instruction for the D.T.M. & H. Examination under the Calcutta University will begin on the 15th October, 1960. This course is open to medical graduates of Indian Universities or candidates possessing equivalent qualifications recognised by the Calcutta University for this purpose, who have been engaged in medical practice for a continuous period of at least 15 months or held residential appointment in a teaching hospital for at least one year. Applications for admission in the prescribed form (obtainable from the School Office) should reach the Director, School of Tropical Medicine, Calcutta by the 31st August, 1960.

Symposium on "Advancing Frontiers of Life Sciences"

A symposium on "Advancing Frontiers of Life Sciences" will be held at the time of the Silver Jubilee Celebrations of the National Institute of Sciences of India at New Delhi in the last week of December, 1960.

Strong national and international participation in this symposium is expected and the current developments in the field of biological sciences in India and abroad will be highlighted. The broad-based title of the symposium has been chosen by the "Symposia Organising Committee" of the Institute to enable biologists and workers in allied scientific disciplines to take part in the discussion from different angles and focus attention on the various areas of progress or lacunae in India's research potentials in this area.

The scope of the symposium is indicated below:

(a) Sciences concerned with Plant life (Botany): Embryology, Morphogenesis, Cytology, Histology, Plant Ecology, Plant Physiology, etc. (b) Sciences concerned with Animal life (Zoology): Anatomy, Embryology, Histology, Cytology, Genetics, Animal Ecology, etc. (c) Sciences concerned with function in Plant and Animal organism (Plant and Animal Physiology, Cellular Physiology, etc.): Human Physiology and Pharmacology, Interactions of coordinating systems, e.g., nervous system, muscle-skeletal system, hormonal system, circulatory system, etc.,—Factors bringing about an alteration of functions of cells through physical and chemical agents. (d) Chemical and Physical aspects of Cells and Organism (Biochemistry and Biophysics): Structure and Cellular functions—Mechanism of protein synthesis—Chemical basis of heredity—Basic proteins in defence and immunity; (e) Techniques and Instrumentation: Radio-Isotopes — Chromatography — Electrophoresis — Ultrasonics — Radiation biology — Radio-autography — X-ray diffraction — Electron-microscopy — Polarisation-microscopy — Tissue Culture — Ultracentrifuge, etc. etc.

An abstract of the paper (in duplicate) not exceeding 250 words should be sent to Dr. B. Mukerji, Director, Central Drug Research Institute, Lucknow, before 30th September, 1960 and the full paper (in duplicate) by 15th November, 1960. Any further information may also be obtained from him.

Planning Body's Health Panel

The Planning Commission has reconstituted its panel on health with Dr. A. N. Khosla, member of the Commission, as its Chairman.

The panel consisting of 38 members besides the chairman will review the progress of health plans and advise the Commission on programmes relating to the Third Five-Year Plan. It was first set up in September 1955 to advise the Commission on health plans of the Union and State Governments, on priorities and targets of the various health programmes including those of medical research, and to provide technical guidance on special problems.

Freeships to be Provided for Medical Students

The Government of Maharashtra has under consideration a scheme of providing freeships to medical students who are prepared to give an undertaking that they would serve in the villages after graduation.

The Government has no intention of bringing an element of compulsion in that scheme. As the Government is keen on promoting various health schemes in the rural areas, a large number of doctors would be needed to carry them out.

Health Schemes in Third Plan

The Union Health Ministry will have to drop or modify some of its ambitious schemes prepared for implementation during the Third Five-Year Plan period for want of funds. The Planning Commission has tentatively provided only Rs. 300 crores in the Third Plan for various health schemes as against 600 crores demanded

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by the Ministry. An extraordinary general meeting of the Central Council of Health will be summoned in the first week of October, presumably at Jaipur, to decide which schemes should be dropped or pruned. Meanwhile, it is authoritatively learnt that the Ministry will not be able to take up even some of its widely-advertised schemes, including those for the total eradication of cholera, smallpox and other communicable diseases, the development and establishment of medical colleges and the provision of improved water supply in urban areas. The responsibility of supplying drinking water to rural areas has been taken over by the Union Ministry of Community Development.

The Union Health Minister, Mr. D. P. Karmarkar, may not be able to fulfil his commitment made on the floor of the Lok Sabha that he would give the 'highest priority' to the problem of supplying drinking water. A meagre provision of Rs. 80 crores in the draft Plan for the purpose will not touch even the fringe of the problem, it is pointed out.

Similarly, it appears doubtful that the good work done during the Second Plan period to cure leprosy will be continued on account of shortage of funds.

Deteriorating Health of Bengali Students

The Calcutta session of the School Health Committee, Government of India, was preceded by the publication of the first report of the Board of Health of Calcutta University. The main report covers the period 1953-59, while the activities of the Board in tht first quarter of the current year are described in a supplement.

The report presents a dismal picture of the state of health of university students in Calcutta. Examination of 3,920 male students from 20 colleges and 1,402 girls from 16 women's colleges in 1958 and 1959 revealed that 41·81 per cent suffered from general defects, 36·71 per cent from malnutrition, 27·81 per cent from defective vision, 12·29 per cent from caries, 10·27 per cent from enlarged glands and 5·05 per cent from skin diseases. A breakdown of these figures as well as the figures for the previous years reveals that incidence of defective vision is heavier among women.

The survey also reveals the disturbing fact that the standard of students' health is deteriorating from year to year. Comparison of the figures of the routine medical check-up of students during the two previous decenniums show that the average weight and chest measurements, and consequently poonderal index and vital capacity, had definitely decreased in almost all the age groups in 1958-59 in comparison with the figures for 1938-40. The percentage incidence of malnutrition and pyorrhoea among males was fairly constant during this period, but there was a decrease in the incidence of skin diseases, diseases of the heart and lungs and defective vision. Among women students there was an increase in the incidence of pyorrhoea, underweight and defective vision and a decrease in skin diseases and enlarged tonsils.

Stress on Control of Malaria

Control of malaria forms the most important item in the programme, drawn up by the Government of India, for the eradication of communicable diseases. The eradication of malaria, it is pointed out, has considerable significance for improving general productivity since in the past, malaria had accounted for a large proportion of the sickness and mortality prevailing in several parts of the country.

The programme includes measures for the control of other diseases like filariasis, tuberculosis, leprosy, smallpox, venereal disease, etc.

The malaria eradication programme will need a total outlay of Rs. 55 crores during the next Five-Year Plan. It is stated that once malaria has been eradicated, relative small recurring expenditures will be required for avoiding its recurrence.

For the control of filaria 40 control units have been set up so far. Besides continuing these units during the Third Plan, it is proposed to set up filaria clinics at the teaching hospitals in the affected areas.

So far as tuberculosis is concerned, the main approach will consist of intensification of the B.C.G. vaccination programme so as to cover the susceptible population by the end of the plan period; extension of the tuberculosis clinic programme aiming ultimately at the provision of one clinic for one million population; provision of domiciliary treatment facilities around the clinics; and setting up tuberculosis training and demonstration centres.

For the control of leprosy over 200 centres will be established by the end of 1965-66. It is also envisaged that every hospital and primary health unit in the endemic areas should be organised as a nucleus for leprosy control work.

The main elements in the programme for the control of smallpox are recruitment and training of a large number of vaccinators; mass vaccination and increase in the supply of vaccine lymph.

Venereal diseases are specially prevalent in large cities and industrial areas and in some sub-Himalayan tracts, it is ponted out. During the Second Plan, 75 district clinics and eight headquarters clinics have been established for the control of venereal diseases. It is proposed to enlarge the programme.

Schemes have also been drawn up for the prevention of other diseases like goitre, trachoma and cholera.

Family Planning Training Camps in Punjab

A three-day family planning training camp for officials of the Community Development block organisation and panchayats in Ambala district opened at Ambala on 14-7-60.

Dr. Asa Singh, Director of Family Planning in Punjab, stated that 68 family planning clinics were now being run in the State, 28 by the Government and 40 by various voluntary organisations like the Red Cross Society, mission hospitals, child welfare councils and local bodies. Of the 28 clinics run by the Government, nine were located in the urban areas and 19 in the countryside. A training centre was run by the Government at the Rajendra Hospital, Patiala.

It has been stated also that training camps, like the one at Ambala, the first in the State, would be held in every district. One such camp would be opened shortly at Taradevi, near Simla, by the Red Cross Society.

REVIEWS

Anglo-American Conference on Proctology (Proceedings of the Royal Society of Medicine, Supplement, Vol. 52, 1959), 10"×7"; pp. 129; price 21s. net or $3.00.

The book deals with all the important aspects of proctology including anatomy and physiology. Contributions have been made by men of wide experience in this field of surgery. Maximum attention has been focussed on Ulcerative Colitis and Carcinoma of the Rectum about which an up-to-date knowledge and critical survey of the results of treatment have been brought to light. The book will be of immense value as a guide to any one interested in proctology.

A. K. DUTTA GUPTA

Management of the Aged Surgical Patient—By S. R. Ziffren, M.D. Year Book Publishers, Inc., 200 East Illinois Street, Chicago 11, U.S.A.; 9"×6"; pp. 219; price $7.50.

The treatise deals explicitly with the fact that the old surgical subject has a quite different biochemical and biological environment. The problem of the management has been very admirably dealt with.

A. K. ROY

Peptic Ulceration—By Charles Wells James Kyle, M.B., M.CH., F.R.C.S. E. & S. Livingstone Ltd., 15-17, Teviot Place, Edinburgh; 1960; 10"×7"; pp. xi+260; price 42s. net.

The aetiology and the pathology of chronic progressive ulcer of the duodenum have baffled the medical profession from time immemorial and so has its treatment. Any light on the subject is more than welcome. The book has been compiled by the veterans in the subject and is recommended to any one who has anything to do with abdominal surgery.

A. K. ROY

Surgery of Repair as applied to Hand Injuries—By B. K. Rank, C.M.G., M.S., F.R.C.S., F.R.A.C.S. and A. R. Wakefield, M.S., F.R.C.S., F.R.A.C.S. 2nd Edition, 1960; E. & S. Livingstone Ltd., 16-17, Teviot Place, Edinburgh; 9½"×6½"; pp. xiv+284; price 45s. net.

The recording of the valuable experience in this particular branch of surgery by the two eminent Australian surgeons, is a great impetus to any active surgeon in any country to pursue in this delicate branch of reparative surgery.

This book is an essential item in a medical library.

A. K. ROY

Bacteriology for Students of Dental Surgery—By R. B. Lucas, M.D., M.R.C.P., D.P.H. and Ivor R. H. Kramer, M.D.S., L.D.S., R.C.S. 2nd edition, 1959; J. & A. Churchill Ltd., 104 Gloucester Place, London, W. 1; 8¼"×5½"; pp. viii+288; price 27s. 6d. net.

A good and useful book written nicely and concisely for the dental students, it gives a general conception of the relationship of bacteria to disease in man and some understanding of the meaning of bacterial infection, concepts necessary both in the practice of dental surgery and for comprehension of the interrelationship between this and other branches of medicine.

The chapter on the bacteriology of dental caries and periodontal disease has been admirably written with details of bacteriology and different tests for diagnosis.

It is the reviewer's opinion that this book will help students of dental surgery to grasp the main concepts of bacterial diseases and impart a general orientation to those who wish to pursue their studies in greater detail.

J. K. MAZUMDAR

OBITUARY

Dr. B. Venkat Rao

Born on 1-8-1909 at Mangalore, Dr. B. Venkat Rao, after completing his school studies, joined Royapuram Medical School, Madras in 1927 and obtained the L.M.P. diploma in May, 1931. He joined the Madras Dental College and Hospital and obtained L.D.Sc. in 1932. In 1933, he came to Hanamkondai, Warangal and started private practice as a dental surgeon. Later in 1950, he was appointed as hony. dental surgeon at M. G. M. Hospital in which post he remained till his death.

DR. B. VENKAT RAO

Dr. Venkat Rao was one of the founder members of the Warangal branch of the Indian Medical Association. He was hony. secretary of the branch from 1949 to 1958 and successfully conducted the II Hyderabad Medical Conference in 1950.

Dr. Venkat Rao was afflicted with coronary thrombosis and, after protracted suffering for nearly a year and a half, expired on May 27, 1960.

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ASSOCIATION NOTES

I.M.A. WORKING COMMITTEE—*Proceedings of the 69th Meeting of the Working Committee of the Indian Medical Association held at Poona on 30th April and 1st May, 1960.*

(Subject to confirmation at the next meeting of the Working Committee)

MEMBERS PRESENT: (a) *Ex-Officio Members*: (1) Dr. H. N. Shivapuri (Lucknow)—President (In the Chair); (2) Dr. C. O. Karunakaran (Trivandrum) Immediate Past President; (3) Dr. B. P. Tribedi (Calcutta)—Senior Vice-President; (4) Dr. Shantilal C. Sheth (Bombay)—Vice-President; (5) Dr. S. N. Acharya (Puri)—Vice-President; (6) Dr. A. P. Mittra (New Delhi)—Honorary General Secretary; (7) Dr. Ved Prakash (New Delhi)—Honorary Joint Secretary; (8) Dr. Salil Dutt (Calcutta)—Honorary Joint Secretary; (9) Dr. R. C. Goulatia (New Delhi)—Honorary Treasurer; (10) Dr. P. K. Guha (Calcutta)—Hony. Editor, Journal of the I.M.A.; (11) Dr. N. Banerjee (Calcutta)—Hony. Secretary, Journal of the I.M.A.

(b) *Representatives from the State/Territorial Branches of the I.M.A.*: (12) Dr. K. Rangacharyulu, (13) Dr. P. S. Giri, Andhra State Branch; (14) Dr. S. P. Nath, Assam State Branch; (15) Dr. H. K. Roy, (16) Dr. Debesh Mukherjee, (17) Dr. Souren Sengupta, (18) Dr. Sukomal Sen, Bengal State Branch; (19) Dr. R. V. Sathe, (20) Dr. Arvind M. Shah, Bombay Territorial Branch; (21) Dr. H. C. Mallik, (22) Dr. P. N. Sinha, Bihar State Branch; (23) Dr. P. R. Trivedi, (24) Dr. R. B. Mehta, Gujarat, Saurashtra & Kutch Terr. Branch; (25) Dr. G. S. Wagle, Madhya Pradesh State Branch; (26) Dr. T. V. Sivanandam, (27) Dr. C. Arumugam, Madras State Branch; (28) Dr. C. N. Chandrachud, (29) Dr. V. B. Davalbhakta, Maharashtra Territorial Branch; (30) Dr. G. V. Joshi, Mysore State Branch; (31) Dr. S. S. Rao, Kerala State Branch; (32) Dr. R. N. Gupta, U. P. State Branch.

(c) *Co-opted members*: (33) Dr. S. C. Sen (New Delhi), (34) Dr. D. S. Mehra (Delhi), (35) Dr. M. M. S. Siddhu (Lucknow), (36) Dr. Y. P. Vasudevan (Coimbatore).

(d) *Invited members*: (37) Dr. B. D. Kirtane (Dhulia) President, Maharashtra Territorial Branch, I.M.A., (38) Dr. S. N. Ranade (Poona) Hony. Secretary, Maharashtra Territorial Branch, I.M.A., (39) Dr. V. N. Khalap (Poona) President, Poona Branch, I.M.A., (40) Dr. M. G. Bhide (Poona) Hony. Secretary, Poona Branch, I.M.A., (41) Lt.-Col. Amirchand (New Delhi), (42) Dr. B. V. Mulay (Sholapur), (43) Dr. C. S. Thakar (Bombay), (44) Dr. Chamanlal M. Mehta (Bombay), (45) Dr. M. A. Panwala (Bombay), (46) Dr. R. K. Menda (Bombay), (47) Dr. K. V. Swami (Madras), (48) Dr. A. K. Sen (Patna), (49) Dr. U. R. Pargaonkar (Hyderabad).

Resolution of Condolence:

The following Condolence Resolution was unanimously passed, all members standing and observing silence for one minute:—

"This meeting of the Working Committee of the Indian Medical Association places on record its deep sense of sorrow at the sad demise of the following members of the Association and conveys its heartfelt sympathy to the members of the bereaved families:—

(1) Dr. S. T. Narasimhan (Madras), 2. Dr. A. Narayana Menon (Madurai), 3. Dr. Kumud Mehta (Bombay), 4. Dr. Chandrakant J. Mehta (Bombay), 5. Dr. C. M. Trivedi (Bombay), 6. Dr. K. Dutta (Meerut), 7. Dr. Durga Sahai (Jaipur), 8. Dr. G. S. Kasyapi (Barsi), 9. Dr. B. L. Vyas (Surat), 10. Dr. K. C. Nag (Hooghly), 11. Dr. K. Damodaran (Asansol), 12. Dr. Rai Bahadur Shyamlal (Pratapgarh), 13. Dr. R. D. Maheswari (Meerut), 14. Dr. L. P. Govil (Meerut), 15. Dr. M. P. Varma (Varanasi), 16. Dr. A. S. Erulkar (Bombay), 17. Dr. V. B. Gadre (Poona), 18. Dr. D. Panja (Calcutta), 19. Dr. D. L. Athavale (Jalgaon), 20. Dr. R. P. Bhargava (Indore), 21. Dr. R. M. Bhandari (Indore), 22. Dr. G. N. Vyas (Agra)."

Messages of Inability to attend the meeting:

Messages of inability to attend the meeting received from the following members were read:—

1. Dr. P. C. Bhatia (Delhi)—Hony. Joint Secretary, I.M.A., 2. Dr. D. G. Ojha (Jodhpur, Rajasthan).

Proceedings:

I. *Confirmation of the Proceedings of the 68th Meeting of the Working Committee held at Indore on 23rd, 24th and 26th December, 1959.*

The following corrections, alterations and additions to the printed and circulated minutes were made:—

Page 293. Column No. 2, Item VII (ii):—*"Journal Department for the year 1959-60"*

Delete the asterisk in the 7th line after the word "Association" and the note at the bottom of the Column which refers to this asterisk.

The Minutes as corrected above were duly confirmed as proposed by Dr. Arvind Shah and seconded by Dr. R. C. Goulatia.

II. *Action taken on business arising out of the proceedings of the previous meeting of the Working Committee.*

(1) *D.T.M. Course at the School of Tropical Medicine, Calcutta.*

Dr. Ved Prakash, Hony. Joint Secretary, I.M.A. read a letter dated 7th April, 1960 from Dr. R. N. Chaudhuri, Director, School of Tropical Medicine, Calcutta, in which he had stated that the matter will be placed before the next meeting of the Faculty of Tropical Medicine and Hygiene, West Bengal. The letter was noted.

(2) *I.M.C. Act as amended in 1956 and 1958.*

No further development had occurred since letter No. 25-10/59-Mi dated 3-3-60 from the Ministry of Health on the subject. It was decided to pursue the matter when opportunity arose.

(3) *I.M.A. Benevolent Fund.*

The reply from the Ministry of Finance seeking permission to start this Fund was still awaited.

(4) *Employees State Insurance Corporation.*

The Memorandum which had been presented to the single member (Lakshmanaswami Mudaliar) Committee and copies of which had been circulated to members of the Working Committee and all State/Territorial Branches was approved. The report of the Standing Committee which had met a day earlier was awaited.

(5) *Life Insurance Corporation of India.*

The report of the Standing Committee as mentioned in item 2 (iv) above also contained L.I.C. correspondence and allied matters and was awaited.

(6) *I.M.A. Building Fund.*

Dr. A. P. Mittra, the Hony. General Secretary informed the house that the Building Plans had been sanctioned by the Corporation and the Plan Sanction fee of Rs. 8,100/-, which was leviable under the new Corporation rules, had been waived by the Corporation since our application had been made before the rules came into force. He also mentioned that the Hony. Architects were drawing up the specifications and quantities of basic materials required for the building and also drawing up a contract form. The construction of the building is expected to be started by the middle of June.

Dr. H. N. Shivapuri, the President, detailed the results of his tour to some of the branches in Maharashtra and the donations to the Building Fund either collected or promised.

Dr. M. A. Panwala of Bombay drew the attention of the Working Committee to a letter from his Territorial Branch requesting naming of a room or some suitable part of the Association Building after Bombay if the Bombay Branch brought up their contribution to the Building Fund to a minimum of Rs. 30,000/-. Several members spoke for or against such a limit being placed for contributions for the purpose to such a low figure as Rs. 30,000/-. The following resolution proposed by Dr. H. K. Roy and seconded by Dr. S. P. Nath was passed unanimously :—

> "Be it resolved that this meeting of the Working Committee accepts the proposal made by the Bombay Territorial Branch in its recent letter to the Central Office and agrees to name a suitable room of the proposed Association Building at Delhi after the Bombay Territorial Branch if the branch is able to contribute Rs. 30,000/- or more to the Building Fund."

The Working Committee further decided that similar conditions would apply to other State/Territorial Branches as well, in case their contribution amounts to not less than 75 per cent of the total cost for the room or hall in question.

The Working Committee, after considerable discussion on the necessity of collecting the maximum possible money for the Building Fund in the shortest possible time, urged upon the State Secretaries and Representatives of the State/Territorial Branches to accelerate the pace of collection in view of the impending commencement of construction of the building.

It was further decided that a copy of the Building Plan and other details be supplied to the State/Territorial Branches inviting their attention to the above Resolution, so that they could also have some portion of the building named after their State by making suitable contribution.

(7) *Shops and Establishments Act.*

Dr. Ved Prakash, the Honorary Joint Secretary placed before the House a tripartite agreement arrived at between the Delhi Medical Association, the Association of Pharmacists and the local administration with regard to the Shops and Establishments Act in Delhi wherein it had been decided that the said Act would be kept in abeyance for a period of four months beginning 1st April, 1960, during which time the members of the Association would give the benefit of the agreed clauses of the Act to their employees and if the arrangement proved satisfactory to all the parties concerned, then the last named party, i.e., local Government would recommend to the Government of India that on condition that the members of the Delhi Medical Association and the Association of Pharmacists and Compounders kept abiding by the provisions of the agreement then the Act be not applicable to Registered Medical Practitioners. The Working Committee decided that the Delhi agreement should be forwarded to all the State/Territorial Branches for modelling their demands on the basis of this agreement.

(8) *Formation of a Defence Council for members of the I.M.A.*

The Sub-Committee formed under this item had met on the previous day and submitted its report. Since the matter had not been finalised the Working Committee directed the Sub-Committee to carry on negotiations etc. with the insurers and report back to it.

(9) (a) *Report of the Sub-Committee re. service rules for employees of the I.M.A. (Central and Journal Offices)*

(b) *Appointment of the Executive Officer for the Central Office.*

Though the report was ready, it could not be circulated, so the matter was deferred.

The President, whilst confirming the minutes of the previous meeting of the Working Committee had allowed discussion on item 11A of those minutes. This matter referred to the appointment of an Executive Officer at the Central Office. Several members pointed out that the advertisement both in the daily newspapers and the Journal made it appear that only Graduates in Medicine were eligible to apply for this post. The Central Office had by an advertisement in the Journal of the Association dated 16th March inserted a correction saying that Medical Licentiates were also eligible and the last date of receipt of applications had been extended up to 31st March, 1960. The Central Office regretted the omission in the first advertisement but pointed out that unfortunately the particular issue of the Journal bearing the correction was received late by the members of the Association and hence the complaint that sufficient notice was not given to the Licentiates was not due to any fault of the Central Office. After discussion, the Working Committee decided that the post be readvertised in the same manner as before with the modification permitting Licentiates also to apply on the same basis as the Graduates.

(10) *Study Tours of Europe.*

Dr. A. P. Mittra, the Honorary General Secretary informed the House that the Government of India had accorded its sanction to a Study Tour to be undertaken in the current year. Several members spoke on the utility or otherwise of these tours. It was generally felt that the programme of the tour particularly in respect of clinical interest could be considerably improved and for this purpose a Sub-Committee consisting of the following was appointed—

(a) Dr. H. N. Shivapuri (Lucknow)
(b) Col. Amirchand (New Delhi)
(c) Dr. Prem Narain (Delhi)

The Sub-Committee was requested to finalise its work expeditiously so that the proposed tour may not be delayed.

(11) *"Apka Swasthya"'s request that the Centre should take over its publication.*

The Report of the Apka Swasthya Sub-Committee was adopted. The Working Committee decided to take over this Journal and run it under its own auspices with its Headquarters at Varanasi and under similar bye-laws under which the Journal of the Indian Medical Association was run from Calcutta. The Apka Swasthya Committee would be set up in due course. This would ensure

uniformity of the policy of the I.M.A. and Apka Swasthya. The Working Committee noted that the Apka Swasthya was not run at a loss. The President was requested that when he visited Calcutta next to attend a meeting of the Journal Committee, the question of taking over of Apka Swasthya be also discussed in the Journal Committee and advice of the Journal Committee sought to suggest adequate and suitable bye-laws. Dr. B. S. Mehta, the Editor of Apka Swasthya was to be invited to the meeting of the Journal Committee at which the President was going to be present. Dr. Mehta would be allowed T.A. at the usual rate.

(12) *Exemption from Income tax on some items of expenditure by members of the Medical Profession.*

The Central Office letter No. 2089/50-60 dated 4/6-2-1960 to the Secretary, Central Board of Revenue had not included several of the items of expenditure of doctors discussed in the previous meeting of the Working Committee at Indore. Therefore, it was decided that another letter be sent to the Board about the items which were left out.

(13) *Dispute between the Indore Branch and the erstwhile Madhya Bharat State Branch pertaining to funds.*

Dr. R. N. Chatterjte, the M.P. member of the Sub-Committee concerned in this issue not being present, the matter was deferred.

(14) *"Visit U.S.A. Year 1960"*

Dr. A. P. Mittra, the Honorary General Secretary detailed the progress made so far in this matter. He mentioned that the Secretary General of the World Medical Association was actively co-operating in helping to formulate a programme for visits to various medical centres in the U.S.A. and make the tour a success.

The Working Committee felt that the per diem expenditure of 25 dollars for participants as proposed by Travel Agents was rather excessive and attempt should be made to bring the cost down keeping in view that the maximum the Government would permit would be 20 dollars per day. It was decided that the programme for this tour should also be considered by the Sub-Committee formed under item 2 (10) above.

(15) *5th Drugs Conference held at Lucknow on 5th November, 1959.*

The Report of the Association's representative on this Conference not having been circulated, the item was postponed.

(16) *Amendment to the Pharmacy Act.*

A letter on the subject which the Central Office had written to the Ministry of Health, Government of India, was approved. The Working Committee decided to pursue the matter.

(17) *Model Anti-Quackery Bill.*

The memorandum drawn by the Hony. Secretary, Bengal State Branch on Model Anti-Quackery Bill had not been received by the Central Office and therefore could not be circulated. During general discussion the members were divided on the issue of listing or according some such status to quacks already practising. Dr. C. O. Karunakaran mentioned that quackery had almost been stopped in the State of Kerala as a result of listing of quacks many years ago. He, therefore, urged upon the Working Committee to recommend similar listing in other States of India. This suggestion of Dr. C. O. Karunakaran was negatived by 9 for and 19 against. The following resolution moved by Dr. Y. P. Vasudevan and seconded by Dr. R. C. Goulatia was adopted 18 voting for it and 2 against.

"(1) The Indian Medical Association is strongly of opinion that none other than those who possess the necessary qualifications under the Indian Medical Council Act and who have been registered under the Act should be allowed to practise modern medicine.

(2) It is also of the opinion that the opportunities given for registration to persons without the necessary qualifications prescribed under the Indian Medical Council Act, is wrong.

(3) The Indian Medical Association is of the opinion that persons practising any of the systems other than modern medicine should be registered in the Council or Board dealing with that system (This should be provided as a clause under Section—5) and they should be prohibited from practising any other system in which they have not been registered.

It should also be made obligatory on practitioners practising systems other than modern medicine to indicate clearly on their Boards and letter heads etc. the system of medicine they are qualified in and they are practising and they should not be allowed to use the term "Doctor" or "Physician" or "Surgeon" which should be the sole privilege of Practitioners of modern medicine."

(18) *Telephone Directory Group Entries.*

The question of group entries particularly for the medical profession without levying any extra charges as suggested by the Bengal State Branch and Bombay Territorial Branch had not been pursued by the Central Office. The Central Office was asked to take up this matter with the authorities at Delhi, keeping in view letter No. 633-89/60 dated 23-4-60 from Dr. Souren Sengupta from Calcutta (Secretary, Bengal Telephone Advisory Committee).

(19) *Resolution passed at the extraordinary meeting of the Central Council of Health, held at New Delhi on 28th and 29th November, 1959.*

This item in fact referred to those resolutions which were approved by the Subjects Committee and were passed at the last annual Conference at Indore in the Open Session. Dr. Ved Prakash the Hony. Joint Secretary pointed out that some of these resolutions pertained to and came within the purview of the various Ministries of Government of India and were duly forwarded to these Ministries. The Office felt great difficulty in pursuing the matter in detail with the Ministries in view of the fact that in most cases no material was available with the Central Office to give authoritative replies to the enquiries made by the Government. This situation arose out of the fact that the movers of the resolution for the Open Conference did not supply any facts and figures when they sent in the resolution for consideration and often resolutions were submitted and accepted at the last minute without details being supplied. The Working Committee decided that in future only such resolutions should be placed before the Open Session which gave authentic and detailed information about the subject and which were received in time except in cases of emergency, when the mover should supply full details in writing for the use of the Central Office.

III. (a) *Formation of new Local Branches.*

The Working Committee approved the formation of the following branches :

Name of Local Branch	State/Terri. Branch	No. of members	Date of formation
1. Etah ...	U. P.	7	1-10-1959
2. Mainpuri ...	—do—	5	—do—
3. Ghatsila ...	Bihar	8	—do—
4. Parola ...	Maharashtra	5	—do—
5. Shrirampur ...	—do—	7	—do—
6. Rewari ...	Punjab	7	—do—
7. Samrala ...	—do—	5	1- 4-1960
8. Birpur ...	Bihar	4	—do—
9. Silli-Muri ...	—do—	5	—do—
10. Kharswan ...	—do—	7	—do—
11. Merhowrah ...	—do—		
12. Hiranpur ...	—do—	5	—do—
13. Banka ...	—do—	6	—do—
14. Massaurhi ...	—do—	5	—do—
15. Khatauli ...	U.P.	6	—do—
16. Rajarhat Bishnupur ...	Bengal	6	—do—

III. (b) *Revival of Branches.*

Revival of the following local branches was duly approved by the Working Committee :—

Name of the Local Branch	State/Terri. Branch	Date of Revival
1. Bhopal ...	Madhya Pradesh	1-10-1959
2. Behar Sharif ...	Bihar	—do—
3. Bihta ...	—do—	—do—
4. Gogri ...	—do—	—do—
5. Raxaul ...	—do—	—do—
6. Simdega ...	—do—	—do—
7. Gurdaspur ...	Punjab	—do—
8. Ajmer ...	Rajasthan	—do—
9. Alwar ...	—do—	—do—
10. Bharatpur ...	—do—	—do—
11. Bhilwara ...	—do—	—do—
12. Dungarpur ...	—do—	—do—
13. Jalore ...	—do—	—do—
14. Jodhpur ...	—do—	—do—
15. Kotah ...	—do—	—do—
16. S. Ganganagar	—do—	—do—
17. Almora ...	U. P.	—do—
18. Firozabad ...	—do—	—do—
19. Gorakhpur ...	—do—	—do—
20. Mathura ...	—do—	—do—
21. Pauri Garhwal	—do—	—do—
22. Asansol ...	Bengal	—do—
23. Baranagore ...	—do—	—do—
24. Bongaon ...	—do—	—do—
25. Darjeeling ...	—do—	—do—
26. Khana Jn. ...	—do—	—do—
27. Tripura ...	—do—	—do—

III. (c) *Suspension of Branches.*

Nil.

III. (d) *Branches declared defunct.*

The following local branches were declared 'Defunct' as recommended by the State/Territorial Branches concerned :

Branches declared defunct	The date from which the branch was declared defunct
1. Petlad (G. S. & Kutch Territorial Branch)	1st April, 1960
2. Gandhidham (G. S. & Kutch Territorial Branch)	—do—

IV. (a) *Consideration of C.F.C. arrears, if any.*

(b) *Position of C.F.C. for the current year 1959-60.*

Dr. R. C. Goulatia, the Honorary Treasurer, laid on the table a statement of C.F.C. arrears for the current and past several years. The figures of arrears in respect of Andhra, Assam and Bengal Branches as maintained by the Central Office and the respective State branches differed and the Working Committee decided that the Sub-Committee which was formed at Cuttack to go into the reasons etc. etc. of accumulation of C.F.C. arrears and propose modification of bye-laws etc. should meet as early as possible and not later than second half of June, 1960.

The request of the Orissa State Branch for writing off an amount of Rs. 108/- of C.F.C. arrears was referred to the Sub-Committee.

V. *Adoption of Audited Accounts.*

(a) *Central Office (1st October, 1959 to 31st December, 1959).*

The Accounts of the Central Office for the quarter ending 31st December, 1959 (already circulated) were adopted, as proposed by Dr. S. Acharya (Orissa) and seconded by Dr. S. Sen (Calcutta).

The Central Office was asked to include in the quarterly accounts, a statement showing the share of C.F.C. due to the Journal in the quarter and the amount actually paid. A statement of amount paid to the Journal Office on account of its share of C.F.C. arrears should be forwarded to the Journal Office.

(b) *Journal Department.*

(i) *1st July, 1959 to 30th September, 1959.*
(ii) *1st October, 1959 to 31st December, 1959.*

Whilst examining the accounts of the Journal Office for the quarters ending 30th September, 1959 and 31st December, 1959 Dr. B. P. Tribedi emphasised the necessity of reducing the expenditure in respect of overtime wages paid to the staff at the Journal Office. Dr. P. K. Guha, the Editor of the Journal, explained, in details, the circumstances for paying over-time wages to some of the staff of the Journal office and tried to impress on the members that unless the accommodation of the Journal office could be increased, it was very difficult to appoint the necessary additional staff to cope with the increased work of the Journal office. Dr. Guha added that though he agreed with the principle that the expenditure in respect of over-time wages should be curtailed as far as practicable, he was not in a position, under the existing circumstances, to assure the members of the Working Committee that the need for such payments for necessary over-time work of the staff could be liquidated, unless the accommodation of the Journal office was adequately increased and the necessary additional staff could be appointed. Dr. Guha also clarified other questions that were asked relating to the Journal department. The President was requested that when he went to Calcutta to attend a meeting of the Journal Committee, he kindly pay special attention to the harmonious working of the Journal department. The Working Committee duly adopted the two quarterly accounts as proposed by Dr. D. S. Mehra and seconded by Dr. G. V. Joshi.

VI. *Letter No. 1391/37/59-60 dated 19-2-60 from the Hony. Secretary, Punjab State Branch, I.M.A.—"To assess the existing facilities for medical relief and to consider the measures for betterment of medical facilities in rural areas in the country".—Central Office circular No. 29/59-60 dated 17-3-60 to the Hony. Secretaries, All State/Territorial Branches, I.M.A.*

The Central Office informed the Committee that some replies had been received in response to circular No. 29/59-60 dated 17-3-60 on the subject of the letter No. 13911 from the Punjab State Branch. After deliberation, the Working Committee requested Dr. A. K. Sen, Hony. State Secretary, Bihar State Branch who had studied this subject in his own State to prepare a proforma and get all the relevant information from the various State Branches, tabulate this information and send it for consideration of the working Committee at its next meeting.

VII. *Letter dated 13th February, 1960 from Dr. Govind Krishna Gan, Nagpur, re. change in dates of the All India Medical Conference to be held at Gauhati from December 26 to December 28, 1960 and the Central Office letter No. 2434/59-60 dated 19/22 February, 1960 in reply thereto.*

The subject matter of the letter dated 13th February, 1960, from Dr. Govind Krishna Gan of Nagpur was explained to the Working Committee by the Central Office and in view of the established convention of holding the annual Conferences from 26th to 28th December every year, the reply of the Central Office to Dr. Gan was approved of by the Working Committee.

VIII. *Draft Rules of Nagpur Branch, I.M.A. (under Maharashtra Territorial Branch) for approval—Central Office letter No. 2364/59-60 dated 18-2-60 to Nagpur Branch, I.M.A.*

The Central Office had advised the Nagpur Branch of the I.M.A. not to have rules in their Branch consti-

tution which were contrary to the rules of the Association and the Nagpur Branch having agreed to follow this advice, the matter was considered closed.

IX. *Letter dated 5th February, 1960 from Dr. Ramanuj Sinha, Muzaffarpur, re. resolutions to be moved at the All-India Medical Conferences.*

This subject has been partly covered under item II (19) above. The Working Committee at this stage decided that Bye-laws No. 33-C and 73-C should be rigidly enforced. Further discussion on this item was postponed and it was decided to reconsider it under item XXI hereafter.

X. *Letter No. AB/L/1/2/3185 dated 16th February, 1960 from the Secretary, Indian Chemical Manufacturers Association, Calcutta, re. use of adrenaline hydrochloride. (Central Office circular No. 25/59-60 dated 23rd February, 1960).*

The Working Committee postponed the final decision on this matter pending further and fuller information from the Indian Chemical Manufacturers Association, Calcutta, as to the reason for the suggested change. The Central Office was asked to inquire from this Organisation whether any experiments had been carried out to find out the pharmacology of the new salt which was proposed to replace adrenaline hydrochloride and if so, the detailed information be supplied to the Indian Medical Association.

XI. *Selection of a representative of the I.M.A. on the Panel "for laying down norms and standards for design of dispensary and health centre buildings" Letter No. 1(109)/59-Design dated 2nd February, 1960 from the Joint Director (Designs), National Buildings Organisation, Government of India, Ministry of W.H. & S., New Delhi.*

Dr. B. V. Mulay (Sholapur) was unanimously selected as the representative of the Association on the Panel "for laying down norms and standards for design of dispensary and Health Centre Buildings".

XII. *Selection of Delegates, Alternate Delegates and Observers to the XIV General Assembly of the World Medical Association to be held in Berlin, Germany—September 16-21, 1960 (Central Office Circular No. 31/59-60 dated 24-2-1960).*

The Central Office had called in nominations under this item quite some time previously. Several further nominations were made from the floor of the House but the President ruled that in view of the Central Office having called nominations after giving due notice, no new nominations for delegates and alternate delegates would be entertained at that time.

Dr. S. C. Sen (New Delhi) and Dr. C. O. Karunakaran (Trivandrum) were unanimously elected as Delegates. Dr. S. C. Sen (New Delhi) was to be the leader of the delegation and he desired that he would go on his own expenditure and Dr. C. O. Karunakaran (Trivandrum) was to be paid his expenses as budgeted for by the Central Council.

Of the nominations received, the following four had offered to go as alternate Delegates :

(i) Dr. R. K. Desai (Surat)

(ii) Dr. Ved Prakash (New Delhi)

(iii) Dr. K. Rangacharyulu (Hyderabad)

(iv) Dr. K. V. Swami.

On a ballot being taken, Dr. R. K. Desai (Surat) and Dr. Ved Prakash (New Delhi) who secured 19 and 18 votes respectively were duly elected in that capacity.

Dr. A. P. Mittra (New Delhi), Dr. P. K. Guha (Calcutta), Dr. K. Sen Gupta (Ballavpur, W. Bengal), Dr. K. K. Datey (Bombay), and Dr. R. K. Shah (Bombay) were elected as Observers.

XIII. *Selection of a Delegate to attend the 128th Annual Meeting of the British Medical Association to be held in Torquay (England) from June 20-24, 1960.*

Dr. K. Sen Gupta (Ballavpur) and Dr. J. L. Caroli (Meerut) were duly proposed and on a ballot being taken, Dr. K. Sen Gupta secured 16 votes as against 3 votes secured by Dr. J. L. Caroli and therefore, Dr. K. Sen Gupta (Ballavpur), was duly selected to represent the I.M.A. as its Delegate to the 128th Annual Meeting of the British Medical Association to be held in Torquay (England) from June 20-24, 1960.

XIV. *Letters dated 7-12-59 from Dr. M. Shrinagesh and dated 19th January, 1960 from Dr. K. V. Satyanarayana re. recommendations of the Pay Commission with regard to pay scales of Railway Assistant Surgeons etc.*

The Central Office had submitted a Memorandum to the Union Minister of Railways. It was approved by the Working Committee. It was also decided to publish the Memorandum in the Journal of the Association.

During discussion on the Memorandum it became apparent that the pay scales proposed by the Association several years previously though very comprehensive in nature, had, to some extent, become out of date in view of the passage of time and the cost of living having gone up. For this reason, the Central Office had asked for the Assistant Surgeon Grade I of the Railways a pay scale similar to that obtainable to Officers of similar class in the Contributory Health Service of the Central Government and approved of by the Pay Commission set up recently.

The Working Committee set up a Sub-Committee to go into the question of pay scales in the light of observations made above, consisting of the following :

(i) Dr. S. C. Sen (New Delhi)
(ii) Dr. (Col.) Amir Chand (New Delhi)
(iii) Dr. A. P. Mittra (New Delhi)—(Convener)
(iv) Dr. Ved Prakash.

XV. *Selection of a Nominee of the I.M.A. on the Drugs Technical Advisory Board—Letter No. F.4-3/60-D dated 2nd February, 1960 from the Deputy Secretary, Government of India, Ministry of Health, New Delhi.*

Dr. S. W. Hardikar, Prof. of Pharmacology, Karnatak Medical College, Hubli, was unanimously selected as the Nominee of the I.M.A. on the Drugs Technical Advisory Board in place of Dr. K. K. Sengupta of Calcutta whose term of 3 years was due to expire on May 31, 1960.

XVI. *Selection of a Nominee of the I.M.A. to the All-India Council of the Society for the Study of Industrial Medicine, India, Bombay—Letter dated 11-3-60 from the Secretary, Society for the Study of Industrial Medicine, India, Bombay.*

The Central Office gave information with regard to correspondence which had taken place with the Secretary of the Society for the Study of Industrial Medicine. During discussion, it was mentioned that this Society had at one time asked for affiliation with the I.M.A. but this could not be agreed to for several reasons. The Working Committee decided that before it should be ascertained whether all the members of the Society were members of the I.M.A. and whether non-medical men were also eligible to become its members. It was brought out before the Committee that one of the Presidents of the Society had at one time made some remarks about the Indian Medical Association which were not very complimentary.

XVII. *Letter No. 295 dated 21st March, 1960 from Dr. M. A. Panwala, Hony. Territorial Secretary, Bombay Territorial Branch, I.M.A. addressed to Sri D. P. Karmarkar, Minister of Health, Government of India, New Delhi, in respect of reduction in price of Tetracycline.*

The Working Committee, after thorough discussion, felt that the price of some of the imported drugs par-

ticularly antibiotics and corticosteroids was inordinately high and good deal of foreign exchange of the country was expended in importing these drugs from various countries. The Working Committee felt that instead of requesting the authorities for achieving uniformity in prices of drugs having identical formulae, the Government be requested to import these drugs from soft currency areas, provided the quality was as good as of those imported from hard currency countries.

XVIII. *Formation (re-formation) of the Standing Committees, as per decision of the Working Committee arrived at its 68th Meeting held at Visakhapatnam on April 11th and 12th, 1959.*

Major H. C. Mallik (Bihar) pointed out that there was no uniformity in the strength of the various Standing Committees of the Association and he wanted this to be remedied. The Working Committee by a majority decision decided not to change the strength of the Standing Committees for the present.

According to the decision arrived at the Visakhapatnam Meeting of the Working Committee, 1/3rd of the members of the Standing Committees were to retire annually by rotation but would be eligible for re-election.

The decision regarding retirement was taken by drawing lots:

National Plan Standing Committee

The following 3 members retired:
1. Dr. A. P. Mittra (New Delhi)
2. Dr. S. C. Sen (New Delhi)
3. Dr. H. N. Shivapuri (Lucknow).

The following 3 were elected to this Committee:
1. Dr. H. K. Roy (Calcutta)
2. Dr. Arvind M. Shah (Bombay)
3. Dr. M. S. S. Siddhu (Lucknow).

Medical Education Standing Committee

Dr. B. P. Tribedi (Calcutta) desired not to re-contest the election. The following member also retired.

Dr. C. N. Chandrachud (Poona).

The following two were elected to this Committee:
1. Dr. C. N. Chandrachud (Poona)
2. Dr. P. N. Sinha (Patna).

Insurance Standing Committee.

The following 3 members retired:
1. Dr. H. N. Shivapuri (Lucknow)
2. Dr. S. C. Sen (New Delhi)
3. Dr. Arvind M. Shah (Bombay).

The following three were elected to this Committee:
1. Dr. H. N. Shivapuri (Lucknow)
2. Dr. Deben Ghosh (Calcutta)
3. Dr. A. P. Shukla (Ahmedabad).

Building Standing Committee.

The following 3 members retired:
1. Dr. C. S. Thakar (Bombay)
2. President, D.M.A.
3. Secretary, D.M.A.

The following 3 were elected to this Committee:
1. Dr. H. N. Shivapuri (Lucknow)
2. President, D.M.A.
3. Secretary, D.M.A.

Family Planning Committee.

Dr. C. O. Karunakaran (Trivandrum) and Dr. S. C. Sen (New Delhi) offered to retire but were re-elected.

Finance Standing Committee.

The following 2 members retired:
1. Dr. B. K. Modak (Kalyan)
2. Dr. Souren Sen Gupta (Calcutta).

The following two were elected to this Committee:
1. Dr. Sukomal Sen (Calcutta)
2. Dr. S. N. Acharya (Puri).

XIX. *15th General Assembly of the World Medical Association proposed to be held in New Delhi during 1961—Inability to hold the General Assembly because of grant of funds by the Government of India being insufficient to meet the expenses.*

Dr. A. P. Mittra, the Honorary General Secretary, placed before the House a leading article published in the newspaper "Indian Express" a few days previously giving a very distorted version of the inability of the Association to invite the 15th General Assembly of the World Medical Association on account of Government of India not having given promise of assistance to the extent asked for. The Government had promised to give Rs. 25,000/- whereas the Association needed a minimum of Rs. 1,25,000/- from the Government. For these reasons, the Hony. General Secretary, who had attended a meeting of the Council of the W.M.A. a few days previously, had very reluctantly informed the Council of the inability of the Association to call the General Assembly in India in 1961. The Working Committee thought that at least one more attempt should be made to request the Government to give the grant as asked for by the Association. Doctors C. S. Thakar, Chamanlal M. Mehta and Arvind Shah were requested to see the Finance Minister when he next went to Bombay and explain matters to him. They were also requested to meet the Editor of the "Indian Express" at Bombay and ask for a disclaimer from him on the subject matter of the editorial mentioned above.

XX. *Report of the representatives of the Association to the Deliberative Body composed of nominees of different Associations for the formation of an All-India Academy of Medical Sciences.*

Doctors A. P. Mittra and Ved Prakash who were present at the meeting of the Deliberative Body of the proposed Academy on 29th January in New Delhi and the Minutes of which had been received in the Central Office, pointed out that though during deliberation a large majority of members of various Associations present had identical views as expressed in the Resolution passed by the Working Committee at its meeting held at Srinagar, yet somehow this had not been mentioned in the Minutes of the Meeting. They were asked to write to the sponsors of the Academy asking for the reasons for this omission.

XXI. *Consideration of amendments to Rules and Bye-laws of the I.M.A.*

Whilst considering the amendments of Rules and Bye-laws which had been received in the Central Office, the Working Committee felt that time had come for a thorough overhaul of the Rules and Bye-laws. The Working Committee decided that four Regional Committees be formed at the following centres:
1. Bombay
2. Calcutta
3. Madras.
4. Lucknow-Delhi.

The Secretaries of the State/Territorial Branches concerned would be the Conveners of these Committees and the membership of the Committee would be decided upon by the State Council. These Committees would suggest by 1-7-60 any modifications of the Rules etc. of the Association for final consideration by a Committee composed of one representative from each Zonal Committee. The Committee for Lucknow-Delhi area was to consist of the following:

1. President, I.M.A.
2. Dr. S. N. Saxena (Kanpur)
3. Dr. M. M. S. Siddhu (Lucknow)
4. Dr. R. N. Gupta—Hon. Asst. Secretary, Central—Convener.

XXII. *Report of the deputation of the I.M.A. which waited upon the Finance Minister, Government of India, with regard to Resolution No. 1 passed at the 36th All-India Medical Conference (Indore).*

The President described the very disappointing interview which the deputation of the I.M.A. formed at

Indore, had with the Union Finance Minister in connection with the allotment for Medical Relief etc. in the Budget for the Third Five Year Plan.

XXIII. *Re-organisation of the staff of the Journal of the I.M.A.*

The Hony. Editor, Journal of the I.M.A., submitted a note regarding (1) appointment of the Senior Medical Sub-Editor as the Chief Sub-Editor and Office Superintendent, (2) appointment of a full-time Accountant, and (3) revision of grades of 5 members of the Office staff of the Journal of the I.M.A. These appointments had been unanimously approved of by the Journal Committee, and payment was being made within the sanctioned budget allotment.

The Working Committee accorded its sanction.

XXIV. *Delhi Medical Association Health Insurance Scheme.*

The Health Insurance Scheme started by the Delhi Medical Association, copies of which had been circulated to the members of the Working Committee, was recommended to be circulated to State/Territorial Branches for their consideration and adoption, in case these branches were contemplating such schemes. It was also decided to invite opinions of the various State/Territorial Branches on the Scheme.

XXV. *Letter No. JDJH/GR dated 24-3-60 from the Assistant Secretary, B.M.A., London, seeking information concerning the methods used in India in the medico-legal investigation of sudden, violent or unexpected deaths.*

The Central Office was asked to obtain the necessary information from Police Surgeon and Professors of forensic medicine in various medical colleges and to supply the same to the B.M.A., London.

XXVI. *Any other business with the permission of the President.*

Re. *The Indian Medical Degrees (Punjab Amendment) Bill, 1958. (A Bill to amend the Indian Medical Degrees Act, 1916 in its application to the State of Punjab).*

A letter No. IMA/PP/1500/37/59-60 dated March 10, 1960 received from the Punjab State Branch, I.M.A. was considered and the house unanimously passed the following resolution as proposed by Dr. Ved Prakash (New Delhi) and seconded by Dr. D. S. Mehra (Delhi):

"This meeting of the Working Committee of the Indian Medical Association appreciates the Amendment of the Indian Medical Degrees Act 1916 by the Government of Punjab, in so far as this Amendment restricts the use of the word "Dr" etc. before the name of persons who fall within the categories mentioned in Item 3 page 1382 of the Punjab Government Gazette dated Friday August 22, 1958 relating to Amendment of Section 2 of Act VII of 1916. If the Amendment of the Act was restricted to this laudable object and also the consequential punishment for contravention of the Act by persons not falling within the categories mentioned above, then the Government of Punjab would have earned the gratitude of the qualified medical profession as defined under the Act. However, the simultaneous further Amendment of the Act under Item 5 on page 1383 in 6-A((b)/iv) is seriously objected to by the Association because this clause will entitle those persons to use the appellation "Dr." who do not possess qualifications falling within the purview of the original Act. The Working Committee of the Association strongly feels that proposed Amendment in 6-A((b)/iv) would lead to confusion in the public mind because the people generally would not be able to differentiate as to who possess a degree granted by Colleges teaching Modern Scientific Medicine and others who pass out of institutions where indigenous systems of medicine are taught. The Working Committee therefore, requests the Government of Punjab to appreciate the consequences of the amendment and therefore not to proceed further in the matter in so far as clause 6-A((b)-iv) is concerned."

XXVII. *Vote of thanks.*

The following resolution was proposed from the chair and passed unanimously:

"This meeting of the Working Committee of the Indian Medical Association places on record its deep appreciation and thanks for the hospitality and courtesy accorded to its members on the occasion of the meeting held at Poona on 30th April and 1st May 1960 by:

(i) The President, Hony. Secretary and members of Poona Branch of the Indian Medical Association.

(ii) The Maharashtra Territorial Branch of the I.M.A.

(iii) The Principal, Armed Forces Medical College."

With a vote of thanks to the chair, the meeting terminated.

H. N. SHIVAPURI
President
Indian Medical Association.

A. P. MITTRA
Honorary General Secretary
Indian Medical Association.

BRANCH NOTES

NELLORE BRANCH—A meeting was held on 18-6-60. Dr. J. Prakasa Rao was in the chair. After the members were entertained to tea by Dr. K. M. Mathew, Dr. P. N. Rangiah of Madras gave a talk on Puzzling Granuloma of Venereal Origin.

NILGIRI BRANCH—A special meeting was held on 14-5-60 with Capt. N. J. DeLamos in the chair. Dr. P. K. Krishnakutty of General Hospital gave a talk on Coarctation of the Aorta.

The monthly meeting was held on 22-5-60 with Dr. V. Kuruvilla in the chair. Dr. P. N. Rangiah of the Institute of Venereology, Government General Hospital, Madras spoke on The Price of Biologic False Positive Reaction in the Practice of Venereology.

A meeting was held on 18-6-60. Dr. V. Kuruvilla, vice-president, was in the chair. A film on Poliomyelitis was shown. Cases of clinical interest were presented by the Government Headquarters Hospital, Ootacamund. Replying to questions by members, Dr. N. Veeraraghavan, Director, Pasteur Institute, Coonoor said that the Institute was going to prepare live poliomyelitis vaccine with the Government of India's help.

NORTH MALABAR BRANCH—A clinical meeting was held on 24-1-60 with Dr. K. T. P. Nambiar in the chair. It was decided to place the considered views of the branch before the Health Survey and Planning Committee of the Government of India, referring to the service conditions of the medical officers, abolition of quackery, availability of drugs, Employees' State Insurance, Family Planning, School Health etc.

A meeting was held on 28-2-60. Dr. K. T. P. Nambiar presided. The minutes of the last meeting was approved. Circulars from Central Office were read and recorded. Medical films on (1) Resuscitation of Cardiac Arrest, (2) Anaemia, (3) Anti-Tuberculous Drugs and (4) Syphilis were shown.

A meeting was held on 27-3-60. Dr. Nambiar presided. The president requested the members to enrol new members. The members felt disappointed at the attitude of the State Branch in refusing to take any action on a resolution which was forwarded straight to the government. The branch requested the State branch to take necessary action on the resolution as it related to a very important matter regarding installation of x-ray plants at the government headquarters hospital, Cannanore and the government hospital, Tellicherry and to sanction grants for radiological examination of patients at private x-ray institutes at government expense. Dr. Zainuddin and Dr. Sarada Bai demonstrated the following cases: (1) Gastric Fistula, (2) Adenitis

with chronic Sinuses, right groin and (3) Tubercular Abdomen.

ORISSA STATE BRANCH—On the eve of the 12th Orissa State Medical Conference held at Bhubaneswar on the 16th and 17th April 1960, the Annual Meetings of the Working Committee and Orissa State Branch Council were held at Bhubaneswar. Dr. D. R. N. Sahu, President of the State Branch presided. Dr. S. N. Acharya vice-president, I.M.A. attended the meetings on special invitation. Fortyfive members were present.

The Hony. Secretary in his annual report for the year 1958-59 said that although there is slight financial improvement of the state branch there is a drop in the membership strength. He made an appeal through his report to the medical colleagues of the state to join the I.M.A. in large numbers to make it a strong organisation in Orissa. He also pointed out in his report that the Government has not yet considered properly the pay, status and service conditions of doctors in Orissa and has not yet integrated the Medical and Public Health cadres in Orissa in spite of repeated recommendation from the Association.

The following members were elected office-bearers of the State branch for the year 1959-60: President—Dr. S. C. Das; Vice-President—Dr. Feroz Ali; Hony. State Secretary—Dr. G. B. Mohanty; Hony. Asst. Secretary—Dr. N. Pradhan; Representative to Central Working Committee, I.M.A.—K. N. Misra, Alternate member—Dr. S. C. Das.

RANAGHAT BRANCH—The members of the branch staged the drama Rama on 10-5-60 in aid of Radharani Maternity Hospital. The function was a success.

RATANGARH BRANCH—A meeting of the branch was held on 25-9-59 with Dr. R. B. Agrawal, Dist. Medical and Health Officer in the chair. Dr. (Miss) K. C. Panikkar spoke on Management of Eclampsia and Dr R. B. Agrawal on Fracture Patella.

Another meeting was held on 1-5-60, with Dr. R. B. Agrawal presiding. Clinical cases were presented. Dr. R. B. Agrawal gave a detailed account of the surgical aspects of Thyrotoxicosis while Dr. B. K. Jajoo spoke on Pericarditis and Nephritis cases from wards.

SHAHJAHANPUR BRANCH—A condolence meeting was held on 28-6-60 under the presidentship of Dr. R. R. Rastogi to mourn the death of Dr. Mitthan Lal a former vice-president of the branch. A resolution expressing deep sorrow was adopted.

SHAJAPUR BRANCH—A meeting of the branch was held on 24-4-60. Seven members were present. A case of Haemoptysis with vomiting and vertigo was presented by Dr. B. L. Jain. This was fully discussed by Dr. M. H. Tripathi, Dr. B. N. Thakur, Dr. M. D. Vishwaroop, Dr. T. N. Kaura and Dr. A. K. Sharma. The general opinion was that it was a case of Pulmonary Tuberculosis. The president gave a farewell address to Dr. Kaura on her transfer.

SHIMOGA BRANCH—A meeting with Chikmagalur branch was held on 30-4-60 and 1-5-60 under the chairmanship of Dr. S. Sreenivasan. The following talks were given: Surgical Aspects in Peptic Ulcers by Dr. D. L. N. Murthy Rao; Psychosomatic Aspects of Peptic Ulcers by Dr. M. Guru Das; Tuberculosis in Infancy and Childhood by Dr. B. R. Rama Rao.

At a meeting held on 28-5-60 under the presidency of Dr. B. R. Sharma Rao, Dr. Lakshman Rao demonstrated a case of Paraplegia. A discussion followed. Cases of Ectopic Pregnancy, Cholelithiasis and Meckel's Diverticulum were presented by Drs. S. Sreenivasan and S. Narasimhamurthy.

A meeting was held on 26-6-60 under the chairmanship of Dr. G. R. Bhoodiappa. A condolence resolution was passed at the sad death of Dr. B. R. Madhava Rao, one of the oldest members of the I.M.A.

Dr. K. S. Ashok gave a talk on Muscular Myopathies and Their Diagnosis.

SHOLAPUR BRANCH—Clinical meetings were held on 28-1-60 and 7-4-60. Dr. G. G. Jog presented cases of Hiatus Hernia, Intracranial Tumour and Thyrotoxicosis; Dr. M. J. Chidgupkar presented A Lump in Abdomen and A Lump in the Breast; Dr. M. V. Albal showed a case of Latent Nystagmus; Dr. M. G. Pradhan presented cases of Pericarditis and Myopathy; Dr. V. D. Kirpekar and Dr. S. K. Lohokare presented cases of Congenital Calcification of Levator Anguli Scapuli, Mastoiditis with Extradural Abscess and Pott's Disease. The WHO Day was celebrated on 7-4-60 with a symposium on Malaria Eradication.

The monthly subscription has been raised to Rs. 2. A new post of Hony. Jt. Secretary has been created. Rs. 1,032-80 collected from the medical examination of school pupils by 57 members of the branch has been credited to the Building Fund of the branch.

SIBSAGAR BRANCH—An emergent meeting was held on 8-5-60, Dr. P. Barooah presiding. Seven members were present. The house expressed its deep sense of sorrow at the sudden death of Dr. Syed Ashan, a member of the branch. It was resolved to send a condolence message to the bereaved family.

An emergent meeting on 26-6-60 condoled the death of Dr. Lalit Kumar Boruah of Nowgong. One minute's silent prayer was observed. Sympathy to the bereaved family was expressed.

XI M. P. STATE MEDICAL CONFERENCE, 1960, RAIPUR

The 11th M. P. State Medical Conference will be held at Vigyan Mahavidyalaya, Raipur, on 8-10 October, 1960. Dr. H. B. Lall has been elected Chairman of the Reception Committee and Dr. D. K. Dani, the Organising Secretary of the conference. Rajyapal Shri Pataskar is expected to inaugurate the conference.

A Scientific Session will be held and a Souvenir published. An Exhibition also is being arranged. Further information may be obtained from the Organising Secretary.

XXVII MYSORE STATE MEDICAL CONFERENCE, 1960, MANIPAL

The 27th Mysore State Medical Conference is scheduled to be held at Manipal in Kasturba Medical College on October 7-9, 1960. Dr. T. M. A. Pai has been elected Chairman and Dr. K. Mohandas Pai and Dr. A. Krishna Rao as Joint Secretaries of the Reception Committee. Further information may be obtained from Dr. A. Krishna Rao, I.M.A. Udipi Branch, Kasturba Medical College, Manipal.

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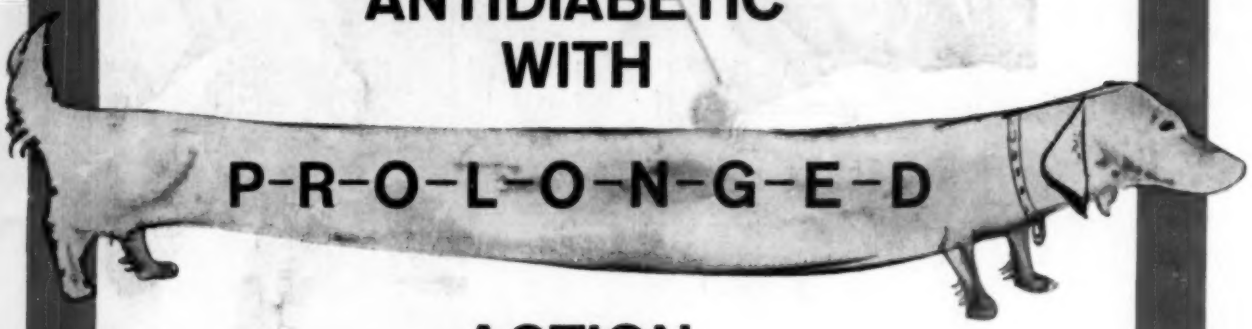

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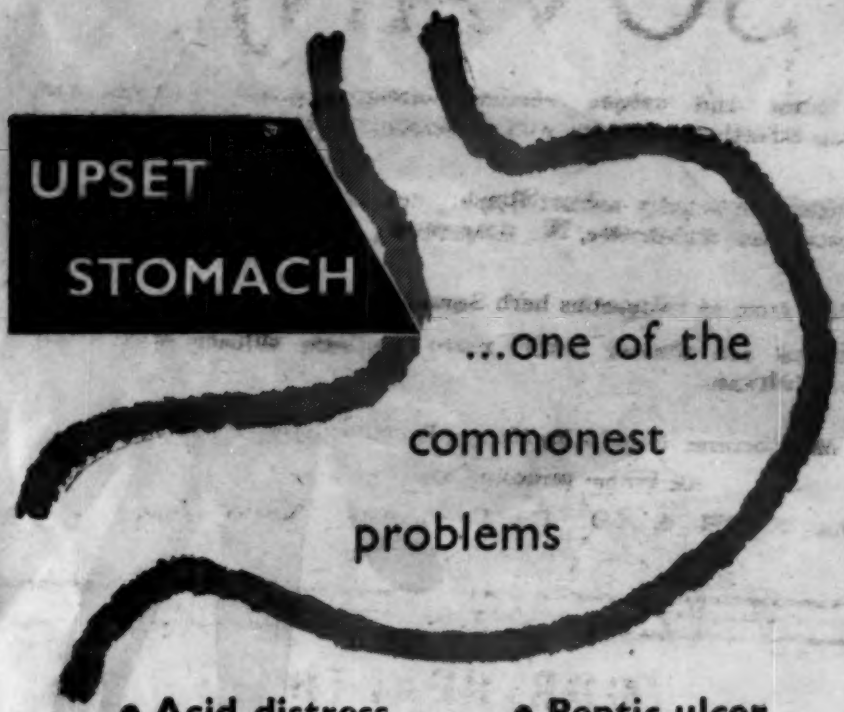

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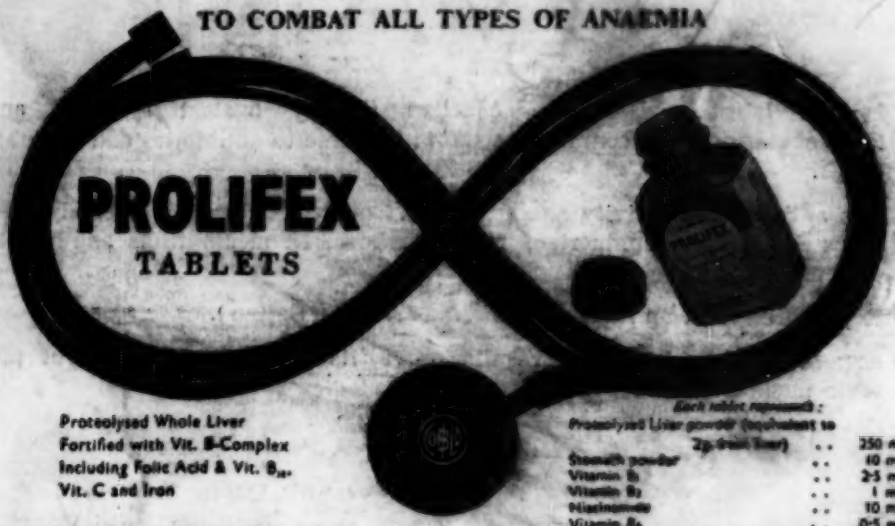

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